



This is a digital copy of a book that was preserved for generations on library shelves before it was carefully scanned by Google as part of a project to make the world's books discoverable online.

It has survived long enough for the copyright to expire and the book to enter the public domain. A public domain book is one that was never subject to copyright or whose legal copyright term has expired. Whether a book is in the public domain may vary country to country. Public domain books are our gateways to the past, representing a wealth of history, culture and knowledge that's often difficult to discover.

Marks, notations and other marginalia present in the original volume will appear in this file - a reminder of this book's long journey from the publisher to a library and finally to you.

Usage guidelines

Google is proud to partner with libraries to digitize public domain materials and make them widely accessible. Public domain books belong to the public and we are merely their custodians. Nevertheless, this work is expensive, so in order to keep providing this resource, we have taken steps to prevent abuse by commercial parties, including placing technical restrictions on automated querying.

We also ask that you:

- + *Make non-commercial use of the files* We designed Google Book Search for use by individuals, and we request that you use these files for personal, non-commercial purposes.
- + *Refrain from automated querying* Do not send automated queries of any sort to Google's system: If you are conducting research on machine translation, optical character recognition or other areas where access to a large amount of text is helpful, please contact us. We encourage the use of public domain materials for these purposes and may be able to help.
- + *Maintain attribution* The Google "watermark" you see on each file is essential for informing people about this project and helping them find additional materials through Google Book Search. Please do not remove it.
- + *Keep it legal* Whatever your use, remember that you are responsible for ensuring that what you are doing is legal. Do not assume that just because we believe a book is in the public domain for users in the United States, that the work is also in the public domain for users in other countries. Whether a book is still in copyright varies from country to country, and we can't offer guidance on whether any specific use of any specific book is allowed. Please do not assume that a book's appearance in Google Book Search means it can be used in any manner anywhere in the world. Copyright infringement liability can be quite severe.

About Google Book Search

Google's mission is to organize the world's information and to make it universally accessible and useful. Google Book Search helps readers discover the world's books while helping authors and publishers reach new audiences. You can search through the full text of this book on the web at <http://books.google.com/>

T806.621.424

referred

day, Feb.
1907, p. 185.



Harvard College Library

FROM

Philip Robinson

don't forget
to get the
book from
the library
etc.

It's all

in the

(H.B. ... etc.)

in the

in the

in the

Must

Philos. or Rep. in lit.) XXXVII. 1841 -

100 "I do believe in the originality
better in it than in the
field of the human mind
remains to be discovered
that the human mind
is a

elaborate

← Description, to be made

in character of the

person

Rep. in L.H. 7,15,



3 2044 097 036 248

Bacon

THE
ADVANCEMENT OF LEARNING

BOOK I

EDITED

WITH INTRODUCTION AND NOTES

BY

ALBERT S. COOK

PROFESSOR OF THE ENGLISH LANGUAGE AND LITERATURE
IN YALE UNIVERSITY



BOSTON, U.S.A., AND LONDON

GINN & COMPANY, PUBLISHERS

The Athenæum Press

1904

~~Educ T 806.301.424~~

Educ. T 806.301.424

HARVARD COLLEGE LIBRARY
FROM THE ESTATE OF
PHILIP ROBINSON
NOV. 20, 1933

ENTERED AT STATIONERS' HALL

COPYRIGHT, 1904

By ALBERT S. COOK

ALL RIGHTS RESERVED

TO THE MEMORY OF
GEORGE HAMMELL COOK
WHO LOVED SCIENCE AND HIS FELLOW-MEN

PREFACE.

WHEN this book was announced, the admirable edition by Wright (Clarendon Press) was extant, but that by Selby (Macmillan) had not yet appeared. My object was to make the meaning of Bacon somewhat more accessible by translating his Latin quotations in the text, the originals being relegated to the foot of the page, and by furnishing quotations in English for the mere citations of Wright, which to the average student are practically useless, since he lacks the means or the opportunity of consulting the originals.

When Selby's edition appeared, I found that it proceeded upon the general principle that I had conceived, but that the notes were often too extended and elementary for the student I had in mind. Since much excellent illustrative matter had been brought together by my predecessors, I have fully drawn upon their stores; of the assistance thus derived I wish here to make general acknowledgment, in addition to the credit given in particular instances.

In the Introduction I have allowed a variety of authorities upon Bacon to express their views upon some of the important aspects of his achievement. There will always be debate about his character and his work, precisely because of a greatness which confounds all ordinary standards. His utterances are seminal, and we feel too indebted to the author who can cause our barren intellects to quicken with new life, to be capable of criticizing him narrowly. I know of no secular author who so defies all efforts to comprehend him, Shakespeare not excepted.

Perhaps if we knew more of Shakespeare's life, and if he had adventured himself in a similar variety of fields, we might find even greater difficulty in harmonizing and unifying all the aspects of his nature. In considering Shakespeare, we must ever remember that it was of the essence of his dramatic profession to take the ply of various characters and moods; while Bacon, besides being in turn subdued to the various matters which occupied him — each of which would have tasked the abilities of even an uncommon man — to such an extent that when he speaks with the accent of authority we seem to hear the voice of nature herself, had also to maintain his own individual character as a man apart from his creations, and in the eyes of the world superior to them all. That this taxed his utmost powers — that it would have taxed the utmost powers of any one — who can deny? Was he not obliged at once to embody in himself the return to classical antiquity, so far as literature and motive impulses were concerned, and to transcend it so far as physical science was concerned? to maintain reverence in his soul while he was undermining the towers of tradition? to write compelling and artistic prose, never since surpassed in some of the greatest qualities of prose, at a time when compelling and artistic prose did not yet exist in English? to serve his monarch in a laborious profession, while building up in imagination a kingdom of science which should enlarge the whole scope of man and extend its own boundaries with every generation? to advocate and exemplify a minute examination of particulars, while ever bearing in mind and making provision for an ultimate and all-embracing synthesis? in a word, to be in his own person prophet and projector, philosopher and poet, as well as man of affairs and servant of the State? Did he always follow in practice the axioms he enounced in theory? With regard to Dante and Sophocles we cannot

answer this question, for lack of knowledge concerning their life in the world. We are puzzled in attempting to answer it with regard to Bacon, because, while he allows us to perceive adumbrations of a comprehensive philosophy of life, and to feel obscurely its power over himself, he is constantly, even in his utterances on the subject, abating the stern ideality which springs from untroubled contemplation, in order to make due concessions to that base world of activity by which he was confronted, and in which he must lay the foundations for a fabric of science which was to endure. Had he been solely concerned with spiritual principles, it would have been otherwise; but his aim was to conduce to the material good of mankind; and how could he have a future material good at heart, if he were totally indifferent to all material considerations in the present? It was his lot to be at cross-purposes with himself, and he must often have felt, with Paul, 'O wretched man that I am! who shall deliver me from the body of this death?' And yet no one could have done what was immediately necessary in the general interests of science, and still have gained such permanent influence over the thoughts of mankind, without experiencing and exhibiting in himself this contradiction. That it was, in a sense, inherent in the circumstances of the time, and not peculiar to an individual, the life of Galileo may suffice to show.

The *Life* by Rawley, the foundation of all subsequent biographies of Bacon, has been reprinted in full, as it is not generally accessible save in the Spedding edition of Bacon's works.

ALBERT S. COOK.

YALE UNIVERSITY,
March 21, 1904.

CONTENTS

	PAGE
INTRODUCTION	xi
I. Rawley's Life of Bacon	xi
II. Events in Bacon's Life and Times	xxv
III. Opinions concerning Bacon	xxvii
IV. Two Prayers of Bacon	lvi
BACON'S ADVANCEMENT OF LEARNING	i
NOTES	75
INDEX OF PROPER NAMES	143

INTRODUCTION.

I. RAWLEY'S LIFE OF BACON.¹

FRANCIS BACON, the glory of his age and nation, the adorning and ornament of learning, was born in York House, or York Place, in the Strand, on the 22d day of January in the year of our Lord 1560. His father was that famous counselor to Queen Elizabeth, the second prop of the kingdom in his time, Sir Nicholas Bacon, Knight, Lord Keeper of the Great Seal of England, a lord of known prudence, sufficiency, moderation, and integrity. His mother was Ann Cook, one of the daughters of Sir Anthony Cook, unto whom the erudition of King Edward the Sixth had been committed; a choice lady, and eminent for piety, virtue, and learning, being exquisitely skilled, for a woman, in the Greek and Latin tongues. These being the parents, you may easily imagine what the issue was like to be; having had whatsoever nature or breeding could put into him.

His first and childish years were not without some mark of eminency; at which time he was endued with that pregnancy and towardness of wit as they were pre-sages of that deep and universal apprehension which was manifest in him afterward, and caused him to be taken

¹ First published in 1657, and afterwards, with slight additions, in 1661. The text is here modernized in spelling, punctuation, and the writing out of numbers; otherwise it follows the edition of 1657, only inserting in their proper places the three new sentences added in 1661. The reprint in Spedding, Ellis, and Heath's edition of Bacon's *Works* (1. 3-18) is not quite exact.

notice of by several persons of worth and place, and especially by the Queen ; who (as I have been informed) delighted much then to confer with him, and to prove him with questions ; unto whom he delivered himself with that gravity and maturity above his years that Her Majesty would often term him *The young Lord Keeper*. Being asked by the Queen how old he was, he answered with much discretion, being then but a boy, *That he was two years younger than Her Majesty's happy reign* ; with which answer the Queen was much taken.

At the ordinary years of ripeness for the university, or rather something earlier, he was sent by his father to Trinity College in Cambridge, to be educated and bred under the tuition of Doctor John Whitgift, then Master of the College, afterwards the renowned Archbishop of Canterbury, a prelate of the first magnitude for sanctity, learning, patience, and humility ; under whom he was observed to have been more than an ordinary proficient in the several arts and sciences. Whilst he was commorant in the university, about sixteen¹ years of age (as his lordship hath been pleased to impart unto myself), he first fell into the dislike of the philosophy of Aristotle ; not for the worthlessness of the author, to whom he would ever ascribe all high attributes, but for the unfruitfulness of the way ; being a philosophy (as his lordship used to say) only strong for disputations and contentions, but barren of the production of works for the benefit of the life of man ; in which mind he continued to his dying day.

After he had passed the circle of the liberal arts, his father thought fit to frame and mold him for the arts of state, and for that end sent him over into France with Sir Amyas Paulet, then employed Ambassador Lieger into France ; by whom he was after a while held fit to be

¹ The original has 16, and so in similar cases.

entrusted with some message or advertisement to the Queen ; which having performed with great approbation, he returned back into France again, with intention to continue for some years there. In his absence in France his father the Lord Keeper died, having collected (as I have heard of knowing persons) a considerable sum of money, which he had separated, with intention to have made a competent purchase of land for the livelihood of this his youngest son (who was only unprovided for; and though he was the youngest in years, yet he was not the lowest in his father's affection); but the said purchase being unaccomplished at his father's death, there came no greater share to him than his single part and portion of the money dividable amongst five brethren ; by which means he lived in some straits and necessities in his younger years. For as for that pleasant site and manor of Gorhambury, he came not to it till many years after, by the death of his dearest brother, Mr. Anthony Bacon, a gentleman equal to him in height of wit, though inferior to him in the endowments of learning and knowledge; unto whom he was most nearly conjoined in affection, they two being the sole male issue of a second venter.

Being returned from travel, he applied himself to the study of the common law, which he took upon him to be his profession ; in which he obtained to great excellency, though he made that (as himself said) but as an accessary, and not as his principal study. He wrote several tractates upon that subject, wherein, though some great masters of the law did outgo him in bulk, and particularities of cases, yet in the science of the grounds and mysteries of the law he was exceeded by none. In this way he was after a while sworn of the Queen's Counsel Learned Extraordinary—a grace (if I err not) scarce known before. He seated himself, for the commodity of his studies and practice, amongst the Honorable Society of Gray's Inn, of

which house he was a member ; where he erected that elegant pile or structure commonly known by the name of the Lord Bacon's Lodgings, which he inhabited by turns the most part of his life (some few years only excepted) unto his dying day. In which house he carried himself with such sweetness, comity, and generosity, that he was much revered and beloved by the readers and gentlemen of the house.

Notwithstanding that he professed the law for his livelihood and subsistence, yet his heart and affection was more carried after the affairs and places of estate ; for which, if the Majesty Royal then had been pleased, he was most fit. In his younger years he studied the service and fortunes (as they call them) of that noble but unfortunate earl, the Earl of Essex ; unto whom he was, in a sort, a private and free counselor, and gave him safe and honorable advice, till in the end the earl inclined too much to the violent and precipitate counsel of others, his adherents and followers ; which was his fate and ruin.

His birth and other capacities qualified him above others of his profession to have ordinary accesses at court, and to come frequently into the Queen's eye, who would often grace him with private and free communication, not only about matters of his profession or business in law, but also about the arduous affairs of estate ; from whom she received from time to time great satisfaction. Nevertheless, though she cheered him much with the bounty of her countenance, yet she never cheered him with the bounty of her hand, having never conferred upon him any ordinary place or means of honor or profit, save only one dry reversion of the Register's Office in the Star Chamber, worth about 1600*l.* per annum, for which he waited in expectation either fully or near twenty years ; of which his lordship would say in Queen Elizabeth's

time, *That it was like another man's ground buttaling upon his house, which might mend his prospect, but it did not fill his barn*; (nevertheless, in the time of King James it fell unto him); which might be imputed, not so much to Her Majesty's averseness or disaffection towards him as to the arts and policy of a great statesman then, who labored by all industrious and secret means to suppress and keep him down, lest, if he had risen, he might have obscured his glory.

But though he stood long at a stay in the days of his mistress Queen Elizabeth, yet after the change, and coming in of his new master King James, he made a great progress; by whom he was much comforted in places of trust, honor, and revenue. I have seen a letter of his lordship's to King James, wherein he makes acknowledgment *That he was that master to him that had raised and advanced him nine times; thrice in dignity, and six times in office*. His offices (as I conceive) were Counsel Learned Extraordinary to His Majesty, as he had been to Queen Elizabeth; King's Solicitor-General; His Majesty's Attorney-General; Counselor of Estate, being yet but Attorney; Lord Keeper of the Great Seal of England; lastly, Lord Chancellor; which two last places, though they be the same in authority and power, yet they differ in patent, height, and favor of the prince; since whose time none of his successors, until this present honorable lord, did ever bear the title of Lord Chancellor. His dignities were first Knight; then Baron of Verulam; lastly, Viscount Saint Alban; besides other good gifts and bounties of the hand, which His Majesty gave him, both out of the Broad Seal and out of the Alienation Office, to the value in both of eighteen hundred pounds per annum; which, with his manor of Gorhambury, and other lands and possessions near thereunto adjoining, amounting to a third part more, he retained to his dying day.

Towards his rising years, not before, he entered into a married estate, and took to wife Alice, one of the daughters and coheirs of Benedict Barnham, Esquire and Alderman of London, with whom he received a sufficiently ample and liberal portion in marriage. Children he had none; which, though they be the means to perpetuate our names after our deaths, yet he had other issues to perpetuate his name, the issues of his brain; in which he was ever happy and admired, as Jupiter was in the production of Pallas. Neither did the want of children detract from his good usage of his consort during the intermarriage, whom he prosecuted with much conjugal love and respect, with many rich gifts and endowments, besides a robe of honor which he invested her withal, which she wore until her dying day, being twenty years and more after his death.

The last five years of his life, being withdrawn from civil affairs and from an active life, he employed wholly in contemplation and studies — a thing whereof his lordship would often speak during his active life, as if he affected to die in the shadow and not in the light; which also may be found in several passages of his works. In which time he composed the greatest part of his books and writings, both in English and Latin, which I will enumerate (as near as I can) in the just order wherein they were written: *The History of the Reign of King Henry the Seventh*; *Abcedarium Naturæ*, or a metaphysical piece, which is lost; *Historia Ventorum*; *Historia Vitæ et Mortis*; *Historia Densi et Rari*, not yet printed; *Historia Gravis et Levis*, which is also lost; a *Discourse of a War with Spain*; a *Dialogue touching an Holy War*; the fable of *The New Atlantis*; a *Preface to a Digest of the Laws of England*; the beginning of the *History of the Reign of King Henry the Eighth*; *De Augmentis Scientiarum*, or *The Advancement of Learning*, put into Latin, with several

enrichments and enlargements; *Counsels Civil and Moral*, or his book of *Essays*, likewise enriched and enlarged; the *Conversion of Certain Psalms into English Verse*; the translation into Latin of the *History of King Henry the Seventh*, of the *Counsels Civil and Moral*, of the *Dialogue of the Holy War*, of the fable of *The New Atlantis*, for the benefit of other nations; his revising of his book *De Sapientia Veterum*; *Inquisitio de Magnete*; *Topica Inquisitionis de Luce et Lumine*—both these not yet printed; lastly, *Sylva Sylvarum*, or the *Natural History*. These were the fruits and productions of his last five years. His lordship also designed, upon the motion and invitation of his late Majesty, to have written the *Reign of King Henry the Eighth*; but that work perished in the designation merely, God not lending him life to proceed further upon it than only in one morning's work; whereof there is extant an *ex ungue leonem*, already printed in his lordship's *Miscellany Works*.

There is a commemoration due as well to his abilities and virtues as to the course of his life. Those abilities which commonly go single in other men, though of prime and observable parts, were all conjoined and met in him. Those are: sharpness of wit, memory, judgment, and elocution. For the former three, his books do abundantly speak them, which with what sufficiency he wrote, let the world judge; but with what celerity he wrote them, I can best testify. But for the fourth, his elocution, I will only set down what I heard Sir Walter Raleigh once speak of him by way of comparison (whose judgment may well be trusted), *That the Earl of Salisbury was an excellent speaker, but no good penman; that the Earl of Northampton (the Lord Henry Howard) was an excellent penman, but no good speaker; but that Sir Francis Bacon was eminent in both.*

I have been induced to think that if there were a beam of knowledge derived from God upon any man in these modern times, it was upon him. For though he was a

great reader of books, yet he had not his knowledge from books, but from some grounds and notions from within himself ; which, notwithstanding, he vented with great caution and circumspection. His book of *Instauratio Magna* (which in his own account was the chiefest of his works) was no slight imagination or fancy of his brain, but a settled and concocted notion, the production of many years' labor and travail. I myself have seen at the least twelve copies of the *Instauration*, revised year by year, one after another, and every year altered and amended in the frame thereof, till at last it came to that model in which it was committed to the press ; as many living creatures do lick their young ones till they bring them to their strength of limbs.

In the composing of his books he did rather drive at a masculine and clear expression than at any fineness or affectation of phrases, and would often ask if the meaning were expressed plainly enough, as being one that accounted words to be but subservient or ministerial to matter, and not the principal. And if his style were polite, it was because he could do no otherwise. Neither was he given to any light conceits, or descanting upon words, but did ever purposely and industriously avoid them ; for he held such things to be but digressions or diversions from the scope intended, and to derogate from the weight and dignity of the style.

He was no plodder upon books, though he read much, and that with great judgment, and rejection of impertinences incident to many authors ; for he would ever interlace a moderate relaxation of his mind with his studies, as walking, or taking the air abroad in his coach, or some other befitting recreation ; and yet he would lose no time, inasmuch as upon his first and immediate return he would fall to reading again, and so suffer no moment of time to slip from him without some present improvement.

His meals were refectations of the ear as well as of the stomach, like the *Noctes Atticæ*, or *Convivia Deipnosophistarum*, wherein a man might be refreshed in his mind and understanding no less than in his body. And I have known some, of no mean parts, that have professed to make use of their note-books when they have risen from his table. In which conversations, and otherwise, he was no dashing man, as some men are, but ever a countenancer and fosterer of another man's parts. Neither was he one that would appropriate the speech wholly to himself, or delight to outvie others, but leave a liberty to the co-assessors to take their turns. Wherein he would draw a man on, and allure him to speak upon such a subject as wherein he was peculiarly skilful and would delight to speak. And for himself, he contemned no man's observations, but would light his torch at every man's candle.

His opinions and assertions were for the most part binding, and not contradicted by any — rather like oracles than discourses ; which may be imputed either to the well weighing of his sentence by the scales of truth and reason, or else to the reverence and estimation wherein he was commonly had, that no man would contest with him ; so that there was no argumentation, or pro and con (as they term it), at his table ; or if there chanced to be any, it was carried with much submission and moderation.

I have often observed, and so have other men of great account, that if he had occasion to repeat another man's words after him, he had a use and faculty to dress them in better vestments and apparel than they had before, so that the author should find his own speech much amended, and yet the substance of it still retained ; as if it had been natural to him to use good forms, as Ovid spake of his faculty of versifying :

Et quod tentabam scribere, versus erat.

When his office called him, as he was of the King's Counsel Learned, to charge any offenders, either in criminals or capitals, he was never of an insulting and domineering nature over them, but always tender-hearted, and carrying himself decently towards the parties (though it was his duty to charge them home), but yet as one that looked upon the example with the eye of severity, but upon the person with the eye of pity and compassion. And in civil business, as he was Counselor of Estate, he had the best way of advising — not engaging his master in any precipitate or grievous courses, but in moderate and fair proceedings: the King whom he served giving him this testimony, *That he ever dealt in business suavibus modis, which was the way that was most according to his own heart.*

Neither was he in his time less gracious with the subject than with his sovereign. He was ever acceptable to the House of Commons when he was a member thereof. Being the King's Attorney, and chosen to a place in Parliament, he was allowed and dispensed with to sit in the House, which was not permitted to other Attorneys.

And as he was a good servant to his master, being never in nineteen years' service (as himself averred) rebuked by the King for anything relating to His Majesty, so he was a good master to his servants, and rewarded their long attendance with good places freely when they fell into his power; which was the cause that so many young gentlemen of blood and quality sought to list themselves in his retinue. And if he were abused by any of them in their places, it was only the error of the goodness of his nature, but the badges of their indiscretions and intemperances.

This lord was religious; for though the world be apt to suspect and prejudge great wits and politics to have somewhat of the atheist, yet he was conversant with God, as appeareth by several passages throughout the whole

current of his writings. Otherwise he should have crossed his own principles, which were, *That a little philosophy maketh men apt to forget God, as attributing too much to second causes; but depth of philosophy bringeth a man back to God again.* Now I am sure there is no man that will deny him, or account otherwise of him, but to have been a deep philosopher. And not only so, but he was able to render a reason of the hope which was in him, which that writing of his of the *Confession of the Faith* doth abundantly testify. He repaired frequently, when his health would permit him, to the service of the church, to hear sermons, to the administration of the sacrament of the blessed body and blood of Christ; and died in the true faith, established in the church of England.

This is most true—he was free from malice, which (as he said himself) he never bred nor fed. He was no revenger of injuries; which if he had minded, he had both opportunity and place high enough to have done it. He was no heaver of men out of their places, as delighting in their ruin and undoing. He was no defamer of any man to his prince. One day, when a great statesman was newly dead that had not been his friend, the King asked him, *What he thought of that lord which was gone?* he answered, *That he would never have made His Majesty's estate better, but he was sure he would have kept it from being worse;* which was the worst he would say of him: which I reckon not among his moral, but his Christian virtues.

His fame is greater and sounds louder in foreign parts abroad than at home in his own nation; thereby verifying that divine sentence, *A prophet is not without honor, save in his own country, and in his own house.* Concerning which I will give you a taste only, out of a letter written from Italy (the storehouse of refined wits) to the late Earl of Devonshire, then the Lord Ca[ve]ndish: *I will expect the new essays of my Lord Chancellor Bacon, as also his History,*

with a great deal of desire, and whatsoever else he shall compose: but, in particular, of his History I promise myself a thing perfect and singular, especially in Henry the Seventh, where he may exercise the talent of his divine understanding. This lord is more and more known, and his books here more and more delighted in; and those men that have more than ordinary knowledge in human affairs esteem him one of the most capable spirits of his age; and he is truly such. Now his fame doth not decrease with days since, but rather increase. Divers of his works have been anciently, and yet lately, translated into other tongues, both learned and modern, by foreign pens. Several persons of quality, during his lordship's life, crossed the seas on purpose to gain an opportunity of seeing him and discoursing with him; whereof one carried his lordship's picture from head to foot over with him into France, as a thing which he foresaw would be much desired there, that so they might enjoy the image of his person as well as the images of his brain, his books. Amongst the rest, Marquis Fiat, a French nobleman who came Ambassador into England in the beginning of Queen Mary, wife to King Charles, was taken with an extraordinary desire of seeing him, for which he made way by a friend; and when he came to him, being then through weakness confined to his bed, the Marquis saluted him with this high expression, *That his lordship had been ever to him like the angels; of whom he had often heard, and read much of them in books, but he never saw them.* After which they contracted an intimate acquaintance, and the Marquis did so much revere him that, besides his frequent visits, they wrote letters one to the other under the titles and appellations of father and son. As for his many salutations by letters from foreign worthies devoted to learning, I forbear to mention them, because that is a thing common to other men of learning or note, together with him.

But yet in this matter of his fame I speak in the comparative only, and not in the exclusive. For his reputation is great in his own nation also, especially amongst those that are of a more acute and sharper judgment; which I will exemplify but with two testimonies, and no more. The former, when his *History of King Henry the Seventh* was to come forth, it was delivered to the old Lord Brooke,¹ to be perused by him; who, when he had dispatched it, returned it to the author with this eulogy: *Commend me to my lord, and bid him take care to get good paper and ink, for the work is incomparable.* The other shall be that of Doctor Samuel Collins, late Provost of King's College in Cambridge, a man of no vulgar wit, who affirmed unto me *That when he had read the book of the Advancement of Learning, he found himself in a case to begin his studies anew, and that he had lost all the time of his studying before.*

It hath been desired that something should be signified touching his diet, and the regiment of his health, of which, in regard of his universal insight into nature, he may perhaps be to some an example. For his diet, it was rather a plentiful and liberal diet, as his stomach would bear it, than a restrained; which he also commended in his book of the *History of Life and Death*. In his younger years he was much given to the finer and lighter sort of meats, as of fowls, and such like; but afterward, when he grew more judicious, he preferred the stronger meats, such as the shambles afforded, as those meats which bred the more firm and substantial juices of the body, and less dissippable; upon which he would often make his meal, though he had other meats upon the table. You may be sure he would not neglect that himself which he so much extolled in his writings, and that was the use of nitre;

¹ Fulke Greville, the friend of Sidney (1554-1628).

whereof he took in the quantity of about three grains in thin warm broth every morning, for thirty years together next before his death. And for physic, he did indeed live physically, but not miserably; for he took only a maceration of rhubarb, infused into a draught of white wine and beer mingled together for the space of half an hour, once in six or seven days, immediately before his meal (whether dinner or supper), that it might dry the body less; which (as he said) did carry away frequently the grosser humors of the body, and not diminish or carry away any of the spirits, as sweating doth. And this was no grievous thing to take. As for other physic, in an ordinary way (whatsoever hath been vulgarly spoken) he took not. His receipt for the gout, which did constantly ease him of his pain within two hours, is already set down in the end of the *Natural History*.

It may seem the moon had some principal place in the figure of his nativity, for the moon was never in her passion, or eclipsed, but he was surprised with a sudden fit of fainting, and that though he observed not nor took any previous knowledge of the eclipse thereof; and as soon as the eclipse ceased, he was restored to his former strength again.

He died on the ninth day of April in the year 1626, in the early morning of the day then celebrated for our Saviour's resurrection, in the sixty-sixth year of his age, at the Earl of Arundel's house in Highgate near London, to which place he casually repaired about a week before — God so ordaining that he should die there of a gentle fever, accidentally accompanied with a great cold, whereby the defluxion of rheum fell so plentifully upon his breast that he died by suffocation; and was buried in Saint Michael's church at Saint Albans, being the place designed for his burial by his last will and testament, both because the body of his mother was interred there, and because it was

the only church then remaining within the precincts of Old Verulam; where he hath a monument erected for him of white marble (by the care and gratitude of Sir Thomas Meautys, Knight, formerly his lordship's secretary, afterwards Clerk of the King's Honorable Privy Council under two kings), representing his full portraiture in the posture of studying, with an inscription composed by that accomplished gentleman and rare wit, Sir Henry Wotton.

But howsoever his body was mortal, yet no doubt his memory and works will live, and will in all probability last as long as the world lasteth; in order to which I have endeavored (after my poor ability) to do this honor to his lordship, by way of conducing to the same.

II. EVENTS IN BACON'S LIFE AND TIMES.

Born at York House, as younger son of Sir Nicholas Bacon,

Jan. 22, 1560-1561

Lope de Vega born	1562
Shakespeare born	1564
Galileo born	1564
Turks defeated off Lepanto	1571
Massacre of St. Bartholomew	1572
Bacon enters Trinity College, Cambridge	1573
Ben Jonson born	1573
Enters Gray's Inn	1576
Attached to embassy of Sir Amyas Paulet to France	1576-1579
Death of his father	Feb. 22, 1578-1579
Montaigne, <i>Essays</i> , Books I and II	1580
Tasso, <i>Gerusalemme Liberata</i>	1581
Barrister of Gray's Inn	1582
William of Orange assassinated	1584
Entrance into Parliament	1584
Wrote <i>Letter of Advice to Queen Elizabeth</i>	ca. 1584
Sidney killed at Zutphen	1586
Execution of Mary Stuart	1587
Destruction of the Spanish Armada	1588
Assassination of Henry III of France	1588 ⁺

Battle of Ivry	1590
Spenser, <i>Faerie Queene</i> , Books I-III	1590
Bacon makes acquaintance of Earl of Essex	ca. 1591
Bacon member for Middlesex. Speech on Subsidies	1593
Marlowe died	1593
Present of estate from Essex	1595
Bacon Queen's Counsel	1596
Descartes born	1596
Essex takes Cadiz	1596
First edition of <i>Essays</i>	1597
Shakespeare, <i>Richard II</i> and <i>Richard III</i>	1597
Edict of Nantes	1598
Spenser died	1599
Calderon born	1600
Giordano Bruno burned	1600
Trial and execution of Essex, Bacon being engaged against him	1601
Death of Queen Elizabeth	1603
Bacon King's Counsel; knighted by James I	1603
Early philosophical works	1603-1610
Hampton Court Conference	1604
Marlowe, <i>Dr. Faustus</i>	1604
Cervantes, <i>Don Quixote</i> , Part I	1605
<i>Advancement of Learning</i>	1605
Gunpowder Plot	1605
Bacon's marriage to Alice Barnham	1606
Bacon Solicitor-General	1607
Colonization of Virginia	1607
Milton born	1608
<i>De Sapientia Veterum</i>	1609
Galileo discovers Jupiter's moons	1610
Assassination of Henry IV	1610
Kepler's laws known in England	1610
Death of Bacon's mother	1610
Publication of Authorized Version of the Bible	1611
Second edition of <i>Essays</i>	1612
Bacon Attorney-General	1613
Napier invents Logarithms	1614
Bacon chief prosecutor at trial of Somerset	1616
Bacon Privy Councilor	1616
Death of Shakespeare	1616
Death of Cervantes	1616
Fall of Coke	1616

Bacon Lord Keeper	1617
Lord Chancellor and Baron Verulam	1618
Beginning of Thirty Years' War	1618
Bacon took court side in prosecution of Raleigh (1618), of Suffolk (1619), and of Yelverton	1620
<i>Novum Organum</i>	1620
First Puritan emigration to America	1620
Bacon Viscount St. Albans	January, 1620-1621
Bacon's trial and confession	1621
<i>Life of Henry VII</i>	1622
<i>De Augmentis Scientiarum</i>	1623
<i>Translation of certain Psalms</i>	1624
<i>Apophthegms New and Old</i>	1624
Death of James I	1625
Third edition of <i>Essays</i>	1625
Bacon's death	April 9, 1626

III. OPINIONS CONCERNING BACON.

(NICHOL, *Francis Bacon*, pp. 18, 19.)

In Bacon, as far as was possible in one man, the learning of the age met and mingled. All the Romance — *i.e.*, at that date all the literary — languages of Europe were part of his province. In his pages all the classics — save Homer and the Greek dramatists — are rifled to enrich the 'Globus Intellectualis.' All the philosophies of the West, and most of the little then known of science, come within his ken. His criticisms of history are generally sound, as are his references to the dicta and methods of previous authors, and his quotations, though somewhat overlaid, are always illuminating. He had no pretension to the minute scholarship of a Casaubon or a Scaliger; but his grasp of the Latin tongue was firm, and his use of it facile. It is in the influence of Italy, ancient and modern, over his thought, that we find him as emphatically a child of the Renaissance as was Leonardo da Vinci. Of its physical and emotional excesses, whether of love, hate,

cruelty, or violence, he had no touch; but in its love of letters and discovery, in its revolt from stereotyped restraints, its seeking after the substance of the new, incongruously at times tempered by reverence for the forms of the old, he was the greatest of the heirs of the movement. We shall have to note again how much he owed to the ancient philosophies he formally assailed; his acceptance of their political ideas is almost unreserved. Bacon's whole conception of a State — its relation to the individual; its supreme authority; the subordination of classes within its bounds; its proper attitude to other nations, of war, finance, commerce; its cultivation of art and science — is Greek to the core. His idea of a State religion, which he would at once reform and assert, and of the limits of dissent and conformity, recalls the *Laws* of Plato. His continually recurring standard of life, in all public and private relations, is neither more nor less than Aristotle's 'Golden Mean.' Passing from theory to practical details, Bacon takes, with considerable modifications no doubt, but yet in the main he takes his model from nearer and more questionable authorities — those of Rome grown crafty in her decline, of Florence struggling in vain against her tyrants, from the historians of the Renaissance itself — Guicciardini and Machiavel.

(HUXLEY, in *Fortnightly Review* 29. 175, 183-185.)

I know not what may be the opinion of those who are competent to judge of the labors of Euclid, or of Hipparchus, or of Archimedes; but I think that the question which will rise to the lips of the biological student, fresh from the study of the works of Galen, is rather, How did these men, with their imperfect appliances, attain so vast a measure of success? In truth, it is in the Greek world that we must seek, not only the predecessors, but the spiritual progenitors, of modern men of science. The

slumbering aptitude of Western Europe for physical investigation was awakened by the importation of Greek knowledge and of Greek method; and modern anatomists and physiologists are but the heirs of Galen, who have turned to good account the patrimony bequeathed by him to the civilized world. . . .

I proposed at the outset of this essay to say something about the method of inquiry which Harvey pursued, and which guided him throughout his successful career of discovery.

It is, I believe, a cherished belief of Englishmen that Francis Bacon, Viscount St. Albans, and sometime Lord Chancellor of England, invented that 'Inductive Philosophy' of which they speak with almost as much respect as they do of Church and State; and that, if it had not been for this 'Baconian induction,' science would never have extricated itself from the miserable condition in which it was left by a set of hair-splitting folk, known as the ancient Greek philosophers. To be accused of departing from the canons of the Baconian philosophy is almost as bad as to be charged with forgetting your aspirates; it is understood as a polite way of saying that you are an entirely absurd speculator.

Now the *Novum Organon* was published in 1620, while Harvey began to teach the doctrine of the circulation in his public lectures in 1619. Acquaintance with the 'Baconian induction,' therefore, could not have had much to do with Harvey's investigations. The *Exercitatio*, however, was not published till 1628. Do we find in it any trace of the influence of the *Novum Organon*? Absolutely none. So far from indulging in the short-sighted and profoundly unscientific depreciation of the ancients in which Bacon indulges, Harvey invariably speaks of them with that respect which the faithful and intelligent study of the fragments of their labors that remain to us must inspire

in every one who is practically acquainted with the difficulties with which they had to contend, and which they so often mastered. And, as to method, Harvey's method is the method of Galen, the method of Realdus Columbus, the method of Galileo, the method of every genuine worker in science either in the past or the present. On the other hand, judged strictly by the standard of his own time, Bacon's ignorance of the progress which science had up to that time made, is only to be equaled by his insolence towards men in comparison with whom he was the merest sciolist. Even when he has some hearsay knowledge of what has been done, his want of acquaintance with the facts, and his abnormal deficiency in what I may call the scientific sense, prevent him from divining its importance. Bacon could see nothing remarkable in the chief contributions to science of Copernicus, or of Kepler, or of Galileo; Gilbert, his fellow-countryman, is the subject of a sneer; while Galen is bespattered with a shower of impertinences, which reach their climax in the epithets 'puppy' and 'plague.'

I venture to think that if Francis Bacon, instead of spending his time in fabricating fine phrases about the advancement of learning, in order to play, with due pomp, the part which he assigned to himself of 'trumpeter' of science, had put himself under Harvey's instruction, and had applied his quick wit to discover and methodize the logical process which underlaid [*sic*] the work of that consummate investigator, he would have employed his time to better purpose; and, at any rate, would not have deserved the just but sharp judgment which follows: 'that his [Bacon's] method is impracticable cannot, I think, be denied, if we reflect, not only that it never has produced any result, but also that the process by which scientific truths have been established cannot be so presented as even to appear to be in accordance with it.' I

quote from one of Mr. Ellis's contributions to the great work of Bacon's most learned, competent, and impartial biographer, Mr. Spedding.

Few of Harvey's sayings are recorded, but Aubrey tells us that some one having enlarged upon the merits of the Baconian philosophy in his presence, 'Yes,' said Harvey, 'he writes philosophy like a Chancellor.' On which pithy reply diverse persons will put diverse interpretations. The illumination of experience may possibly tempt a modern follower of Harvey to expound the dark saying thus: 'So this servile courtier, this intriguing politician, this unscrupulous lawyer, this witty master of phrases, proposes to teach me my business in the intervals of his. I have borne with Riolan, let me also be patient with him'; at any rate, I have no better reading to offer.

In the latter half of the sixteenth and beginning of the seventeenth centuries, the future of physical science was safe enough in the hands of Gilbert, Galileo, Harvey, Descartes, and the noble army of investigators who flocked to their standard, and followed up the advance of their leaders. I do not believe that their wonderfully rapid progress would have been one whit retarded if the *Novum Organon* had never seen the light; while, if Harvey's little *Exercise* had been lost, physiology would have stood still until another Harvey was born into the world.

(BREWSTER, *Memoirs of Sir Isaac Newton* 2. 404-406.)

The process of Lord Bacon was, we believe, never tried by any philosopher but himself. As the subject of its application, he selected that of heat. With his usual erudition, he collected all the facts which science could supply; he arranged them in tables; he cross-questioned them with all the subtlety of a pleader; he combined them with all the sagacity of a judge; and he conjured them by all the magic of his exclusive processes. But, after all

this display of physical logic, nature thus interrogated was still silent. The oracle which he had himself established refused to give its responses, and the ministering priest was driven with discomfiture from his shrine. This example, in short, of the application of his system, will remain to future ages as a memorable instance of the absurdity of attempting to fetter discovery by any artificial rules.

Nothing even in mathematical science can be more certain than that a collection of scientific facts are of themselves incapable of leading to discovery, or to the determination of general laws, unless they contain the predominating fact or relation in which the discovery mainly resides. A vertical column of arch-stones possesses more strength than the materials arranged in an arch without the keystone. However nicely they are adjusted, and however nobly the arch may spring, it never can possess either equilibrium or stability. In this comparison all the facts are supposed to be necessary to the final result; but, in the inductive method, it is impossible to ascertain the relative importance of any facts, or even to determine if the facts have any value at all, till the master-fact which constitutes the discovery has crowned the zealous efforts of the aspiring philosopher. The mind then returns to the dark and barren waste over which it has been hovering; and by the guidance of this single torch it embraces, under the comprehensive grasp of general principles, the multifarious and insulated phenomena which had formerly neither value nor connexion. Hence it must be obvious to the most superficial thinker that discovery consists in the detection of some concealed relation — some deep-seated affinity which baffles ordinary research, or in the discovery of some simple fact which is connected by slender ramifications with the subject to be investigated; but which, when once detected, carries us

back by its divergence to all the phenomena which it embraces and explains.

In order to give additional support to these views, it would be interesting to ascertain the general character of the process by which a mind of acknowledged power actually proceeds in the path of successful inquiry. The history of science does not furnish us with much information on this head, and if it is to be found at all, it must be gleaned from the biographies of eminent men. Whatever this process may be in its details, if it has any, there cannot be the slightest doubt that in its generalities at least it is the very reverse of the method of induction. The impatience of genius spurns the restraints of mechanical rules, and never will submit to the plodding drudgery of inductive discipline. The discovery of a new fact unfits even a patient mind for deliberate inquiry. Conscious of having added to science what had escaped the sagacity of former ages, the ambitious discoverer invests his new acquisition with an importance which does not belong to it. He imagines a thousand consequences to flow from his discovery; he forms innumerable theories to explain it; and he exhausts his fancy in trying ~~all its~~ ^{every} possible relations to recognized difficulties and unexplained facts. The reins, however, thus freely given to his imagination, are speedily drawn up. His wildest conceptions are all subjected to the rigid test of experiment, and he has thus been hurried by the excursions of his own fancy into new and fertile paths, far removed from ordinary observation. Here the peculiar character of his own genius displays itself by the invention of methods of trying his own speculations, and he is thus often led to new discoveries far more important and general than that by which he began his inquiry. For a confirmation of these views, we may refer to the History of Kepler's Discoveries; and if we do not recognize them to the same extent in the labors

of Newton, it is because he kept back his discoveries till they were nearly perfected, and therefore withheld the successive steps of his inquiries.

(ABBOTT, *Francis Bacon*, pp. 333-339.)

Although Bacon always speaks of his own philosophy as quite new and different from all philosophic systems that had gone before, yet he was at least partially aware that, on its negative side, and in its protest against excessive deference to the authority of Aristotle, his work had been anticipated. He had entered into the fruits of the labors of many predecessors, some of whom are mentioned in his pages; and without a brief review of their work, it would be difficult to realize the nature of the task he undertook.

As early as the thirteenth century his namesake, Roger Bacon (born about 1214), had protested against the Aristotelian despotism, in behalf of a new learning which should be based on experience and should produce fruit. In language which reminds us of Francis Bacon's *Idols*, he imputes human ignorance to four causes: authority, custom, popular opinion, and the pride of supposed knowledge. Nor could the author of the *Novum Organum* have uttered a more confident prediction of the results to be expected from the practical application of the New Learning than is found in the passage where Roger Bacon declares that, as Aristotle by ways of wisdom gave Alexander the kingdom of the world, so Science can enable the Church to triumph over Antichrist by disclosing the secrets of nature and art.

But the Schoolmen were too strong for Roger Bacon. Beginning with John Scotus Erigena in the ninth century, and ending with William of Ockham in the fourteenth, these philosophers made it their endeavor to arrange and support the orthodox doctrine of the Church in accordance

with the rules and methods of the Aristotelian dialectics; and at the very time when Roger Bacon was rebelling against the yoke, Thomas Aquinas was riveting it more firmly than ever by fashioning the tenets of Aristotle into that fixed form in which they became the great impediments to the progress of knowledge. The adoption of the Aristotelian philosophy by the Dominican and Franciscan Orders in the form in which Aquinas had systematized it, helped to defer for three centuries the reform which Roger Bacon was already urging as a crying necessity. Pasturing, and content to pasture, on Aristotle instead of Nature, the Schoolmen despised experiment and observation. It was such students as these whom Francis Bacon likened, not to the bees, who mold what they gather, nor even to the ants, who at least collect, but to the spiders, evolving unsubstantial theory from self-extracted argument.

Yet during the fifteenth and sixteenth centuries theoretical innovation and practical reform were in secret mutiny, preparing the way for the open revolt against Aristotle and his viceroy of Aquinum. During these two centuries the fundamental doctrines of mechanics, hydrostatics, optics, magnetism, and chemistry were established and promulgated; and their startling and irrefutable results forced on men's minds the power given to mankind over nature by the New Philosophy. Over these fresh provinces of learning, since Aristotle had not discovered them, Aristotle could claim no dominion. In this revolution the principal part was played by a class described by Whewell as the 'Practical Reformers'; but to Francis Bacon they were comparatively unknown and unappreciated, and we will therefore give precedence to that other class which receives more frequent and prominent mention in his works, and which may be called the class of 'Theoretical Innovators.'

Telesius (Bernardinus), born in 1508, in his treatise on the *Nature of Things* (1565), says: 'The construction of the world, and the magnitude and nature of the bodies in it, are not to be investigated by reasoning, as was done by the ancients; but they are to be apprehended by the sense, and collected from the things themselves.' He complains that his predecessors in philosophy, during their laborious examinations of the world, 'appear never to have looked at it, but to have made an arbitrary world of their own. We then, not relying on ourselves, and of a duller intellect than they, propose to turn our regard to the world itself and its facts.' But the execution of his work was not equal to his conception of it; and we find him deserting the path of experiment, and falling into the old track of assumptions. Ramus (born in 1515) maintained as his thesis, when proceeding to his degree of Master of Arts in Paris (1535), that 'all that Aristotle has said is not true.' In 1543 he published his *System of Logic*, with animadversions upon Aristotle. After being deprived of his professorship and restored, he was put to death in 1572, during the massacre of St. Bartholomew's day. Campanella (who was born in 1568, and died in 1639) warns men against mere books and definitions, proclaiming his own resolution to 'compare books with that first and original writing, the world,' and declaring that men must begin to reason from sensible things: 'definition is the end and epilogue of Science.'

Among the 'Practical Reformers,' Leonardo da Vinci (1452-1519) is the first who took the true view of the laws of equilibrium of the lever in the most general case. He anticipates Francis Bacon in his remarks on experiment: 'The interpreter of the artifices of Nature is Experience, who is never deceived. We must begin from experiment, and try to discover the reason.' Copernicus (1543), in his *Revolution of the Heavenly Bodies*,

introduced the heliocentric theory, though (and this must be borne in mind when we discuss Bacon's rejection of the Copernican system) he nowhere asserts that it is a certain truth, but merely describes it as 'a better explanation of the revolution of the celestial orbs.'

Tycho Brahé (1560-1601), the prince of observers, without a telescope, and with a globe no bigger than his fist, detected the errors of existing astronomical tables, and by his mechanical skill in the construction of instruments discovered the means of remedying these errors; and to his observations we owe the deduction of the real laws of a planet's motion by Kepler (1609-1618), and of the fundamental law of attraction by Newton (1687). Though he rejected the Copernican theory (a very different theory then from the theory as modified by Newton) he discovered that the old Ptolemaic spheres of the planets and of the Primum Mobile could not possibly be solid; and thus he struck the first decisive blow against the Ptolemaic system.

Napier (1550-1617) by the publication (1614) of his *Logarithmic Tables* — on which he was busied before 1594, but of which Francis Bacon never appears to have had any knowledge — bestowed on astronomy a benefit which has been described by Laplace as 'doubling the life of astronomers by reducing to a few days the labor of many months.'

Galileo (1564-1642), by his experiment from the leaning tower of Pisa (before 1592), disproved the Aristotelian doctrine that bodies fall quickly or slowly in proportion to their weight. Rebuking the 'paper philosophers' who thought that philosophy could be studied like the *Æneid* or the *Odyssey*, he employs the same language as Campanella concerning the Book of the Universe: 'Philosophy is written in that great book, I mean the Universe, which is constantly open before our eyes; but it cannot be

understood except we first know the language and learn the characters in which it is written.' But more effective than his sublimest denunciations of paper philosophy was his invention of the thermometer (before 1597), and the construction of his wonder-working telescope in 1609.

Gilbert (1540-1603), physician to Queen Elizabeth and author of a treatise *On the Magnet* (1600), deserves special attention as being not only the contemporary, but also the countryman, of Francis Bacon. Like Bacon, he strongly maintains the superiority of experimental knowledge; like Bacon, he desires to see more fruit from philosophy; and, like him, he also inveighs against Aristotle and Galen as the two Lords of Philosophy, worshiped as false gods; but he differs from Bacon in consistently adhering to the Copernican system of astronomy, rejecting the Ptolemaic as absurd. Galileo writes of him, 'I extremely admire and envy this author,' and Whewell (from whom this sketch is taken) declares that his work 'contains all the fundamental facts of Magnetism so fully stated that we have at this day little to add to them'; but to Francis Bacon, impatiently aspiring after vast and general conclusions, Gilbert's researches seemed petty and narrow; and for some faint praise of this original worker he takes ample compensation by declaring that Gilbert has so lost himself in his subject that 'he has himself become a magnet.'

From this brief summary of the thoughts and works of the Theoretical Innovators and the Practical Reformers, it will be seen that Francis Bacon (1561-1626), being in his early manhood the contemporary of Galileo, Tycho Brahé, and Kepler, and of his own countrymen, Gilbert and Napier, was living in the midst of an intellectual revolution which had already almost shaken off the yoke of the tyrant Aristotle, and was preparing to set up Experience on the vacated throne.

But the new *de facto* government was not yet recognized by the outside world, and was suspected by many who spoke authoritatively as the appointed champions of Religion. At this particular time, therefore, there was need of some herald of Philosophy to proclaim the new kingdom, and to summon the world to a solemn coronation of the new sovereign. 'I am but a trumpeter, not a combatant,' writes the author of the *De Augmentis*; and whatever more he did or failed to do, certainly he succeeded in sounding forth through the civilized world a note of triumph, preparing the way for the welcome of the New Philosophy by men of letters, by men of the world, by prelates, nobles, and kings.

Neither the tone, nor the merits, nor the results of Bacon's philosophical works will be appreciated by any who have not learned to sympathize with the social timidity of the discoverers in the sixteenth, and even in the seventeenth centuries. Fundamental innovations in Natural Philosophy were at that time regarded with something of the fear and hatred inspired by theological heresies. Galileo (1597) writes to Kepler that he had personally adopted the Copernican system some years before, but that *he continued to teach in public the Ptolemaic system*. Even as late as 1628, not in Italy but in England, and not dealing with Astronomy (which might have seemed a Biblical province) but with the circulation of the blood, Harvey writes: 'So new and unheard of are my discoveries that I not only anticipate some evil from the envy of particular persons, but even dread incurring the enmity of all.'

Hence, in part, may we explain Bacon's anxiety to obtain a peaceable entrance for his philosophy, and his desire to gain the help of kings, nobles, and bishops; hence his various literary experiments, anonymous or otherwise, some attacking the old philosophy, some

recommending the new; some abstruse, some popular; some directly and avowedly philosophical, some (as for example the *Wisdom of the Ancients*) indirectly suggesting his philosophic tenets or (as in the *New Atlantis* or the *Redargutio Philosophiarum*) blending his view with a mixture of attractive fiction. To express his conciliatory purpose, he frequently uses an illustration derived from the peaceable occupation of Italy by the French under Charles VIII. As those invaders had no need to fight, but only to 'chalk up quarters' for their troops, so he hopes to find 'chalked up quarters' for the New Philosophy in the hearts of men.

The absence of encouragement for scientific work, and the isolation of scientific workers, were other disadvantages against which Bacon had to contend: and hence in the *Advancement of Learning* we shall find him advocating the endowment of readers in sciences and the provision of expenses for experiments, and by his last will attempting to supply this deficiency. He dislikes the religious controversies of the day, among other reasons because they divert the minds of men from science, and, in his earnest desire for a theological peace, he compares himself to the miller of Huntingdon, who 'prayed for peace among the willows that his water might have the more work.' Gilbert, Napier, Harriot, and in later times Harvey, found it necessary to prosecute their studies abroad. Of English scientific isolation Bacon himself presents a striking and blamable instance; for he appears to have known nothing of the results of Kepler's calculations, nor of Napier's logarithms, nor of Galileo's experiments on falling bodies. Harriot is a still more striking instance of this isolation, not indeed that, like Bacon, he is ignorant, but rather that he is ignored. Not till 1788 was it ascertained from the inspection of his papers that he had been the first to discover the solar spots, and that he

had observed the satellites of Jupiter simultaneously with Galileo. For the leisure necessary for these researches he was indebted to the Earl of Northumberland, who, besides maintaining many other learned men, had settled on him a pension of £300 a year. Concerning this great mathematician Bacon makes a note in his *Commentarius Solutus*; but it is merely to the effect that he is 'inclined to experiments.' We cannot be surprised if hereafter we find Bacon — in his keen realization of the evils arising from the isolation of the laborers in the field of science — laying great, and perhaps too great, stress on the advantages to be expected from systematic division of labor and co-operation.

(WELD, *History of the Royal Society* 1. 57-59, 62-63.)

But it must not be forgotten how much is due to Lord Bacon, who died only thirty-six years before the incorporation of the Royal Society. With a comprehensive and commanding mind, patient in inquiry, subtile in discrimination, neither affecting novelty nor idolizing antiquity, Bacon formed, and in a great measure executed, his great work on the *Instauration of the Sciences*, which being clearly connected in its main features with the Royal Society, connects itself with our inquiry. The design was divided into six capital divisions. The first proposes a general survey of human knowledge, and is executed in the admirable treatise, *The Advancement of Learning*. In this Lord Bacon critically examines the state of learning in its various branches at that period, observes and points out defects and errors, and then suggests proper means for supplying omissions and rectifying mistakes.

The second and the most considerable part is the *Novum Organum*, in which the author, rejecting syllogism as a mere instrument of disputation, and putting no trust in the hypothetical systems of ancient philosophy,

recommends the more slow but more satisfactory method of induction, which subjects natural objects to the test of observation and experience, and subdues nature by experiment and inquiry. It will be seen how rigidly the early Fellows of the Royal Society followed Bacon's advice.

The third part of the work is the *Sylva Sylvarum*, or history of nature, which furnishes materials for a natural and experimental history, embracing all the phenomena of the universe.

The fourth part, or *Scala Intellectus*, sets forth the steps or gradations by which the understanding may regularly ascend in philosophical inquiries, and is evidently intended as a particular application and illustration of the author's method of philosophizing.

The fifth part, or *Anticipationes Philosophiæ Secundæ*, was designed to contain philosophical hints and suggestions; but nothing of this remains, except the title and scheme.

The sixth portion was intended to exhibit the universal principles of natural knowledge deduced from experiments, in a regular and complete system; but this the author despaired of being himself able to accomplish. Having laid the foundation of a grand and noble edifice, he left the superstructure to be completed by the labors of future philosophers. . . .

It is, however, in his *New Atlantis* that we have the plan of such an institution as the Royal Society more distinctly set forth. . . .

Boyle, in his voluminous works, which extend to five large folios, frequently commemorates and honors the name of Bacon. In his treatise on the *Mechanical Origin of Heat and Cold* he tells us that 'Bacon was the first among the moderns who handled the doctrine of heat like an experimental philosopher'; in his *Considerations touching Experimental Essays in General*, that 'he had

made considerable collections, with the view of following up Bacon's plan of a natural history'; in his *Experiments and Observations touching Cold* he extols Bacon as 'the great ornament and guide of the philosophical historians of nature'; in his *Excellency of Theology* he says that Bacon was 'the great restorer of physics, and had traced out the most useful way to make discoveries'; and he writes in his *Essay on the Usefulness of Experimental Philosophy*, 'it was owing to the sagacity and freedom of Lord Bacon that men were then pretty well enabled both to make discoveries and to remove the impediments that had hitherto kept physics from being useful.'

Various other writers of this period might be quoted, who pay grateful homage to Bacon for the service he rendered to science, some calling him the 'Patriarch of Experimental Philosophy.' 'If,' says Dr. Whewell, 'we must select some one philosopher as the hero of the revolution in scientific method, beyond all doubt Francis Bacon must occupy the place of honor.'

(HERSCHEL, *Preliminary Discourse on the Study of Natural Philosophy*, pp. 113-116.)

By the discoveries of Copernicus, Kepler, and Galileo, the errors of the Aristotelian philosophy were effectually overturned on a plain appeal to the facts of nature; but it remained to show, on broad and general principles, how and why Aristotle was in the wrong; to set in evidence the peculiar weakness of his method of philosophizing, and to substitute in its place a stronger and better. This important task was executed by Francis Bacon, Lord Verulam, who will therefore justly be looked upon in all future ages as the great reformer of philosophy, though his own actual contributions to the stock of physical truths were small, and his ideas of particular points strongly tinged with mistakes and errors, which were

the fault rather of the general want of physical information of the age than of any narrowness of view on his own part; and of this he was fully aware. It has been attempted by some to lessen the merit of this great achievement by showing that the inductive method had been practised in many instances, both ancient and modern, by the mere instinct of mankind; but it is not the introduction of inductive reasoning, as a new and hitherto untried process, which characterizes the Baconian philosophy, but his keen perception, and his broad and spirit-stirring, almost enthusiastic, announcement of its paramount importance as the alpha and omega of science, as the grand and only chain for the linking together of physical truths, and the eventual key to every discovery and every application. Those who would deny him his just glory on such grounds would refuse to Jenner or to Howard their civic crowns because a few farmers in a remote province had, time out of mind, been acquainted with vaccination, or philanthropists in all ages had occasionally visited the prisoner in his dungeon.

An immense impulse was now given to science, and it seemed as if the genius of mankind, long pent up, had at length rushed eagerly upon Nature, and commenced with one accord the great work of turning up her hitherto unbroken soil, and exposing the treasures so long concealed. A general sense now prevailed of the poverty and insufficiency of existing knowledge in *matters of fact*; and as information flowed fast in, an era of excitement and wonder commenced, to which the annals of mankind had furnished nothing similar. It seemed, too, as if Nature herself seconded the impulse; and, while she supplied new and extraordinary aids to those senses which were henceforth to be exercised in her investigation — while the telescope and the microscope laid open *the infinite* in both directions — as if to call attention to her wonders,

and signalize the epoch, she displayed the rarest, the most splendid and mysterious, of all astronomical phenomena, the appearance and subsequent total extinction of a new and brilliant fixed star, twice within the lifetime of Galileo himself.

The immediate followers of Bacon and Galileo ransacked all nature for new and surprising facts, with something of that craving for the marvelous which might be regarded as a remnant of the age of alchemy and natural magic, but which, under proper regulation, is a most powerful and useful stimulus to experimental inquiry. Boyle, in particular, seemed animated by an enthusiasm of ardor which hurried him from subject to subject, and from experiment to experiment, without a moment's intermission, and with a sort of undistinguishing appetite; while Hooke (the contemporary, and almost the worthy rival, of Newton) carried a keener eye of scrutinizing reason into a range of research even yet more extensive. As facts multiplied, leading phenomena became more prominent, laws began to emerge, and generalizations to commence; and so rapid was the career of discovery, so signal the triumph of the inductive philosophy, that a single generation, and the efforts of a single mind, sufficed for the establishment of the system of the universe on a basis never after to be shaken.

(ELLIS, *General Preface to the Philosophical Works (Works of Francis Bacon*, ed. Ellis, Spedding, and Heath, 1. 63-65, 67).)

Bacon has been likened to the prophet who from Mount Pisgah surveyed the Promised Land, but left it for others to take possession of. Of this happy image perhaps part of the felicity was not perceived by its author. For though Pisgah was a place of large prospect, yet still the Promised Land was a land of definite extent and known boundaries, and moreover it was certain that after no

long time the chosen people would be in possession of it all. And this agrees with what Bacon promised to himself and to mankind from the instauration of the sciences.

A truer image of the progress of knowledge may be derived from the symbol which, though on other grounds, Bacon himself adopted. Those who strive to increase our knowledge of the outward universe may be said to put out upon an apparently boundless sea; they dedicate themselves

To unpathed waters — undreamed shores;

and though they have a good hope of success, yet they know they can subdue but a small part of the new world which lies before them.

In this respect, then, as in others, the hopes of Francis Bacon were not destined to be fulfilled. It is neither to the technical part of his method nor to the details of his view of the nature and progress of science that his great fame is justly owing. His merits are of another kind. They belong to the spirit rather than to the positive precepts of his philosophy.

He did good service when he declared, with all the weight of his authority and of his eloquence, that the true end of knowledge is the glory of the Creator and the relief of man's estate. The spirit of this declaration runs throughout his writings, and we trust has worked for good upon the generations by which they have been studied. And as he showed his wisdom in coupling together things divine and human, so has he shown it also in tracing the demarcation between them, and in rebuking those who by confounding religion and philosophy were in danger of making the one heretical, and the other superstitious. . . .

The religious earnestness of Bacon's writings becomes more remarkable when we contrast it with the tone of the

most illustrious of his contemporaries. Galileo's works are full of insincere deference to authority, and of an affected disbelief in his own discoveries. Surely he who loves truth earnestly will be slow to believe that the cause of truth is to be served by irony. But we must not forget the difference between the circumstances in which the two men were placed.

Next to his determination of the true end of natural philosophy, and of the relation in which it stands to natural and to revealed theology, we may place among Bacon's merits his clear view of the essential unity of science. He often insists on the importance of this idea, and has especially commended Plato and Parmenides for affirming 'that all things do by scale ascend to unity.' The Creator is holy in the multitude of his works, holy in their disposition, holy in their unity; it is the prerogative of the doctrine of Forms to approach as nearly as possible towards the unity of Nature, and the subordinate science of Physics ought to contain two divisions relating to the same subject. One of these ought to treat of the first principles which govern all phenomena, and the other of the fabric of the universe. All classifications of the sciences ought to be as veins or markings, and not as sections or divisions; nor can any object of scientific inquiry be satisfactorily studied apart from the analogies which connect it with other similar objects.

But the greatest of all the services which Bacon rendered to natural philosophy was that he perpetually enforced the necessity of laying aside all preconceived opinions and learning to be a follower of Nature. These counsels could not to their full extent be followed, nor has he himself attempted to do so. But they contain a great share of truth, and of truth never more needful than in Bacon's age. Before his time doubtless the authority of Aristotle, or rather that of the scholastic interpretation

of his philosophy, was shaken, if not overthrown. Nevertheless the systematizing spirit of the schoolmen still survived, and of the reformers of philosophy not a few attempted to substitute a dogmatic system of their own for that from which they dissented. . . .

Lastly, the tone in which Bacon spoke of the future destiny of mankind fitted him to be a leader of the age in which he lived. It was an age of change and of hope. Men went forth to seek in new-found worlds for the land of gold and for the fountain of youth; they were told that yet greater wonders lay within their reach. They had burst the bands of old authority; they were told to go forth from the cave where they had dwelt so long, and look on the light of heaven. It was also for the most part an age of faith; and the new philosophy upset no creed, and pulled down no altar. It did not put the notion of human perfectibility in the place of religion, nor deprive mankind of hopes beyond the grave. On the contrary, it told its followers that the instauration of the sciences was the free gift of the God in whom their fathers had trusted — that it was only another proof of the mercy of Him whose mercy is over all his works.

(FOWLER, *Bacon*, pp. 195-196, 201, 202.)

In the Introduction to my Edition of the *Novum Organum* (§ 14), I have adduced a large number of testimonies to the estimation in which Bacon's works on the reform of science and scientific method were held from the time of his contemporaries and immediate successors down to the middle of the eighteenth century, when the 'Baconian Philosophy' and the 'Baconian Method' had come to be almost universally regarded as terms expressive of accurate and fruitful investigation in every department of science. These testimonies include those of Descartes, Mersenne, Gassendi, Peiresc, Du Hamel, Bayle, Voltaire,

Condillac, D'Alembert in France; Vico in Italy; Comenius, Puffendorf, Leibnitz, Huygens, Morhof, Boerhaave, Buddæus in Germany; and, in England, the group of men who founded or were amongst the earliest members of the Royal Society, such as Wallis, Oldenburg, Glanvill, Hooke, and Boyle. Not only do these writers speak with approbation of Bacon's method, but most of them also furnish evidence of the impulse which he gave to scientific inquiry, and the direction which he impressed upon it. Indeed there can be little doubt that the foundation of the Royal Society in England — and possibly the same origin may be assigned to some similar societies on the Continent — was due to the impulse given by Bacon to the study of experimental science, and the plans which he had devised for its prosecution. A review of the whole evidence leads me to the conclusion that there can be no question as to the reality of his influence on the progress of science in the generation immediately succeeding his own, though as to the extent and nature of that influence there is room for considerable difference of opinion. When we arrive at the end of the seventeenth century, a generation later, we are, in England at least, in the full tide of experimental research, and at that time, I believe, the value and influence of Bacon's writings had come to be universally acknowledged. . . .

To all these sources of influence we must add the marvellous language in which Bacon often clothes his thoughts. His utterances are not infrequently marked with a grandeur and solemnity of tone, a majesty of diction, which renders it impossible to forget, and difficult even to criticize them. He speaks as one having authority, and it is impossible to resist the magic of his voice. Whenever he wishes to be emphatic, there is a true ring of genius about all that he says. Hence, perhaps, it is that there is no author, unless it be Shakespeare, who is so easily

remembered or so frequently quoted. His phraseology, when most quaint, as in the case of the 'Idols' and the 'Instances,' is often most attractive to the reader, and most persistent in its hold on the memory. Hence, too, perhaps, it is that there is no author so stimulating. Bacon might well be called the British Socrates. Even had his individual precepts been utterly worthless, many men must have owed their first impulse to the study of nature, or to independent investigation in general, to the terse and burning words, issuing, as it were, from the lips of an irresistible commander, with which he urges them to the work.

(CHURCH, *Bacon*, pp. 182-184, 190-193.)

The course which he marked out so laboriously and so ingeniously for Induction to follow was one which was found to be impracticable, and as barren of results as those deductive philosophies on which he lavished his scorn. He has left precepts and examples of what he meant by his cross-examining and sifting processes. As admonitions to cross-examine and to sift facts and phenomena they are valuable. Many of the observations and classifications are subtle and instructive. But in his hands nothing comes of them. They lead at the utmost to mere negative conclusions; they show what a thing is not. But his attempt to elicit anything positive out of them breaks down, or ends at best in divinations and guesses, sometimes — as in connecting Heat and Motion — very near to later and more carefully grounded theories, but always unverified. He had a radically false and mechanical conception, though in words he earnestly disclaims it, of the way to deal with the facts of nature. He looked on them as things which told their own story, and suggested the questions which ought to be put to them; and with this idea half his time was spent in collecting huge masses of indigested facts of the most various

authenticity and value, and he thought he was collecting materials which his method had only to touch in order to bring forth from them light and truth and power. He thought that, not in certain sciences, but in all, one set of men could do the observing and collecting, and another be set on the work of Induction and the discovery of 'axioms.' Doubtless in the arrangement and sorting of them his versatile and ingenious mind gave itself full play; he divides and distinguishes them into their companies and groups, different kinds of Motion, 'Prerogative' instances, with their long tale of imaginative titles. But we look in vain for any use that he was able to make of them, or even to suggest. Bacon never adequately realized that no promiscuous assemblage of even the most certain facts could ever lead to knowledge, could ever suggest their own interpretation, without the action on them of the living mind, without the initiative of an idea. In truth he was so afraid of assumptions and 'anticipations' and prejudices — his great bugbear was so much the '*intellectus sibi permissus*,' the mind given liberty to guess and imagine and theorize, instead of, as it ought, absolutely and servilely submitting itself to the control of facts — that he missed the true place of the rational and formative element in his account of Induction. He does tell us, indeed, that 'truth emerges sooner from error than from confusion.' He indulges the mind, in the course of its investigation of 'Instances,' with a first 'vintage' of provisional generalizations. But of the way in which the living mind of the discoverer works, with its ideas and insight, and thoughts that come no one knows whence, working hand in hand with what comes before the eye or is tested by the instrument, he gives us no picture. Compare his elaborate investigation of the 'Form of Heat,' in the *Novum Organum*, with such a record of real inquiry as Wells' *Treatise on Dew*, or Herschel's analysis of it in his *Introduction to Natural Philosophy*. And

of the difference of genius between a Faraday or a Newton and the crowd of average men who have used and finished off their work, he takes no account. Indeed, he thinks that for the future such difference is to disappear. . . .

Two men stand out, 'the masters of those who know,' without equals up to their time, among men — the Greek Aristotle and the Englishman Bacon. They agree in the universality and comprehensiveness of their conception of human knowledge ; and they were absolutely alone in their serious practical ambition to work out this conception. In the separate departments of thought, of investigation, of art, each is left far behind by numbers of men, who in these separate departments have gone far deeper than they, have soared higher, have been more successful in what they attempted. But Aristotle first, and for his time more successfully, and Bacon after him, ventured on the daring enterprise of 'taking all knowledge for their province'; and in this they stood alone. This present scene of man's existence, this that we call Nature, the stage on which mortal life begins and goes on and ends, the faculties with which man is equipped to act, to enjoy, to create, to hold his way amid or against the circumstances and forces round him — this is what each wants to know, as thoroughly and really as can be. It is not to reduce things to a theory or a system that they look around them on the place where they find themselves with life and thought and power ; that were easily done, and has been done over and over again, only to prove its futility. It is to know, as to the whole and its parts, as men understand *knowing* in some one subject of successful handling, whether art or science or practical craft. This idea, this effort, distinguishes these two men. The Greeks — predecessors, contemporaries, successors of Aristotle — were speculators, full of clever and ingenious guesses, in which the amount of clear and certain fact

was in lamentable disproportion to the schemes blown up from it ; or they devoted themselves more profitably to some one or two subjects of inquiry, moral or purely intellectual, with absolute indifference to what might be asked, or what might be known, of the real conditions under which they were passing their existence. Some of the Romans, Cicero and Pliny, had encyclopædic minds ; but the Roman mind was the slave of precedent, and was more than satisfied with partially understanding and neatly arranging what the Greeks had left. The Arabians looked more widely about them ; but the Arabians were essentially sceptics, and resigned subjects to the inevitable and the inexplicable ; there was an irony, open or covert, in their philosophy, their terminology, their transcendental mysticism, which showed how little they believed that they really knew. The vast and mighty intellects of the schoolmen never came into a real grapple with the immensity of the facts of the natural or even of the moral world ; within the world of abstract thought, the world of language, with its infinite growths and consequences, they have never had their match for keenness, for patience, for courage, for inexhaustible toil ; but they were as much disconnected from the natural world, which was their stage of life, as if they had been disembodied spirits. The Renaissance brought with it not only the desire to know, but to know comprehensively and in all possible directions ; it brought with it temptations to the awakened Italian genius, renewed, enlarged, refined, if not strengthened by its passage through the Middle Ages, to make thought deal with the real, and to understand the scene in which men were doing such strange and wonderful things ; but Giordano Bruno, Telesio, Campanella, and their fellows, were not men capable of more than short flights, though they might be daring and eager ones. It required more thoroughness, more humble-minded industry, to match the

magnitude of the task. And there have been men of universal minds and comprehensive knowledge since Bacon—Leibnitz, Goethe, Humboldt, men whose thoughts were at home everywhere where there was something to be known. But even for them the world of knowledge has grown too large. We shall never again see an Aristotle or a Bacon, because the conditions of knowledge have altered. Bacon, like Aristotle, belonged to an age of adventure, which went to sea little knowing whither it went, and ill furnished with knowledge and instruments. He entered with a vast and vague scheme of discovery on these unknown seas and new worlds which to us are familiar, and daily traversed in every direction. This new world of knowledge has turned out in many ways very different from what Aristotle or Bacon purposed, and has been conquered by implements and weapons very different in precision and power from what they purposed to rely on. But the combination of patient and careful industry with the courage and divination of genius, in doing what none had done before, makes it equally stupid and idle to impeach their greatness.

(SPRAT, *History of the Royal Society*, third edition (1722), pp. 35, 36.)

The third sort of new philosophers have been those who have not only disagreed from the ancients, but have also proposed to themselves the right course of slow and sure experimenting; and have prosecuted it as far as the shortness of their own lives, or the multiplicity of their other affairs, or the narrowness of their fortunes, have given them leave. Such as these we are to expect to be but few; for they must divest themselves of many vain conceptions, and overcome a thousand false images which lie like monsters in their way, before they can get as far as this. And of these I shall only mention one great man, who had the true imagination of the whole extent

of this enterprise, as it is now set on foot ; and that is the Lord Bacon, in whose books there are everywhere scattered the best arguments that can be produced for the defense of experimental philosophy, and the best directions that are needful to promote it—all which he has already adorned with so much art that if my desires could have prevailed with some excellent friends of mine who engaged me to this work, there should have been no other preface to the *History of the Royal Society* but some of his writings. But methinks in this one man I do at once find enough occasion to admire the strength of human wit, and to bewail the weakness of a mortal condition. For is it not wonderful that he, who had run through all the degrees of that profession which usually takes up men's whole time, who had studied, and practised, and governed the common law, who had always lived in the crowd and borne the greatest burden of civil business, should yet find leisure enough for these retired studies to excel all those men who separate themselves for this very purpose? He was a man of strong, clear, and powerful imaginations ; his genius was searching and inimitable ; and of this I need give no other proof than his style itself, which, as for the most part it describes men's minds as well as pictures do their bodies, so it did his above all men living. The course of it vigorous and majestic ; the wit bold and familiar ; the comparisons fetched out of the way, and yet the more easy—in all expressing a soul equally skilled in men and nature. All this and much more is true of him, but yet his philosophical works do show that a single and busy hand can never grasp all this whole design of which we treat. His rules were admirable, yet his history not so faithful as might have been wished in many places ; he seems rather to take all that comes than to choose, and to heap rather than to register. But I hope this accusation of mine can be no great injury

to his memory, seeing at the same time that I say he had not the strength of a thousand men, I do also allow him to have had as much as twenty.

IV. TWO PRAYERS OF BACON.¹

I. THE STUDENT'S PRAYER.

To God the Father, God the Word, God the Spirit, we pour forth most humble and hearty supplications that He, remembering the calamities of mankind and the pilgrimage of this our life, in which we wear out days few and evil, would please to open to us new refreshments out of the fountains of His goodness, for the alleviating of our miseries. This also we humbly and earnestly beg, that human things may not prejudice such as are divine; neither that from the unlocking of the gates of sense, and the kindling of a greater natural light, anything of incredulity or intellectual night may arise in our minds towards the divine mysteries, but rather that by our mind thoroughly cleansed and purged from fancy and vanities, and yet subject and perfectly given up to the divine oracles, there may be given unto faith the things that are faith's. Amen.

2. THE WRITER'S PRAYER.

Thou, O Father, who gavest the visible light as the first-born of thy creatures, and didst pour into man the intellectual light as the top and consummation of thy workmanship, be pleased to protect and govern this work, which, coming from thy goodness, returneth to thy glory. Thou, after thou hadst reviewed the works which thy hands had made, beheldest that everything was very good, and thou didst rest with complacency in them.

¹ *Works*, ed. Ellis, Spedding, and Heath, 7. 259; cf. 4. 32.

But man, reflecting on the works which he had made, saw that all was vanity and vexation of spirit, and could by no means acquiesce in them. Wherefore if we labor in thy works with the sweat of our brows, thou wilt make us partakers of thy vision and thy Sabbath. We humbly beg that this mind may be steadfastly in us, and that thou, by our hands and also by the hands of others on whom thou shalt bestow the same spirit, wilt please to convey a largeness of new alms to thy family of mankind. These things we commend to thy everlasting love, by our Jesus, thy Christ, God with us. Amen.

THE FIRST BOOK OF FRANCIS BACON
OF THE
PROFICIENCE AND ADVANCEMENT OF
LEARNING, DIVINE AND HUMAN.

TO THE KING.

THERE were under the Law, excellent king, both daily sacrifices and freewill offerings : the one proceeding upon ordinary observance, the other upon a devout cheerfulness. In like manner there belongeth to kings from their servants both tribute of duty and presents of affection. In the former of these I hope I shall not live to be wanting, according to my most humble duty and the good pleasure of Your Majesty's employments. For the latter I thought it more respective to make choice of some oblation which might rather refer to the propriety ¹⁰ and excellency of your individual person than to the business of your crown and state.

Wherefore representing Your Majesty many times unto my mind, and beholding you not with the inquisitive eye of presumption, to discover that which the Scripture ¹⁵ telleth me is inscrutable, but with the observant eye of duty and admiration ; leaving aside the other parts of your virtue and fortune, I have been touched, yea and possessed, with an extreme wonder at those your virtues and faculties which the philosophers call intellectual : ²⁰ the largeness of your capacity, the faithfulness of your memory, the swiftness of your apprehension, the pene-

tration of your judgment, and the facility and order of your elocution. And I have often thought that, of all the persons living that I have known, Your Majesty were the best instance to make a man of Plato's opinion, that all
 5 knowledge is but remembrance, and that the mind of man by nature knoweth all things, and hath but her own native and original notions (which by the strangeness and darkness of this tabernacle of the body are sequestered) again revived and restored ; such a light of nature
 10 I have observed in Your Majesty, and such a readiness to take flame and blaze from the least occasion presented, or the least spark of another's knowledge delivered. And as the Scripture saith of the wisest king, 'That his heart was as the sands of the sea,' which though it be
 15 one of the largest bodies, yet it consisteth of the smallest and finest portions ; so hath God given Your Majesty a composition of understanding admirable, being able to compass and comprehend the greatest matters, and nevertheless to touch and apprehend the least ; whereas
 20 it should seem an impossibility in nature for the same instrument to make itself fit for great and small works. And for your gift of speech, I call to mind what Cornelius Tacitus saith of Augustus Cæsar: *His style of speech was flowing and prince-like.*¹ For, if we note it
 25 well, speech that is uttered with labor and difficulty, or speech that savoreth of the affectation of art and precepts, or speech that is framed after the imitation of some pattern of eloquence, though never so excellent — all this has somewhat servile, and holding of the subject.
 30 But Your Majesty's manner of speech is indeed prince-like, flowing as from a fountain, and yet streaming and branching itself into nature's order, full of facility and felicity, imitating none and inimitable by any. And as

¹ *Augusto profluens, et qua principem deceret, eloquentia fuit.*

in your civil estate there appeareth to be an emulation and contention of Your Majesty's virtue with your fortune : — a virtuous disposition with a fortunate regiment ; a virtuous expectation, when time was, of your greater fortune, with a prosperous possession thereof in the due time ; a virtuous observation of the laws of marriage, with most blessed and happy fruit of marriage ; a virtuous and most Christian desire of peace, with a fortunate inclination in your neighbor princes thereunto ; — so likewise in these intellectual matters, there seemeth to be no less contention between the excellency of Your Majesty's gifts of nature and the universality and perfection of your learning. For I am well assured that this which I shall say is no amplification at all, but a positive and measured truth : which is, that there hath not been since Christ's time any king or temporal monarch which hath been so learned in all literature and erudition, divine and human. For let a man seriously and diligently revolve and peruse the succession of the emperors of Rome (of which Cæsar the dictator, who lived some years before Christ, and Marcus Antoninus, were the best learned), and so descend to the emperors of Grecia, or of the West, and then to the lines of France, Spain, England, Scotland, and the rest, and he shall find this judgment is truly made. For it seemeth much in a king, if by the compendious extractions of other men's wits and labors he can take hold of any superficial ornaments and shows of learning, or if he countenance and prefer learning and learned men ; but to drink indeed of the true fountains of learning, nay, to have such a fountain of learning in himself, in a king, and in a king born, is almost a miracle. And the more, because there is met in Your Majesty a rare conjunction as well of divine and sacred literature as of profane and human, so as Your Majesty standeth invested of that triplicity which in great veneration was

ascribed to the ancient Hermes : the power and fortune of a king, the knowledge and illumination of a priest, and the learning and universality of a philosopher. This propriety inherent and individual attribute in Your Majesty
5 deserveth to be expressed, not only in the fame and admiration of the present time, nor in the history or tradition of the ages succeeding, but also in some solid work, fixed memorial, and immortal monument, bearing a character or signature both of the power of a king and the difference and perfection of such a king.

Therefore I did conclude with myself that I could not make unto Your Majesty a better oblation than of some treatise tending to that end, whereof the sum will consist of these two parts : the former concerning the excellency
15 of learning and knowledge, and the excellency of the merit and true glory in the augmentation and propagation thereof ; the latter, what the particular acts and works are which have been embraced and undertaken for the advancement of learning, and again what defects and
20 undervalues I find in such particular acts ; to the end that though I cannot positively or affirmatively advise Your Majesty, or propound unto you framed particulars, yet I may excite your princely cogitations to visit the excellent treasure of your own mind, and thence to extract
25 particulars for this purpose agreeable to your magnanimity and wisdom.

IN the entrance to the former of these — to clear the way, and, as it were, to make silence to have the true testimonies concerning the dignity of learning to be better
30 heard, without the interruption of tacit objections — I think good to deliver it from the discredits and disgraces which it hath received, all from ignorance, but ignorance severally disguised : appearing sometimes in the zeal and jealousy of divines, sometimes in the severity and arro-

gancy of politics, and sometimes in the errors and imperfections of learned men themselves.

I hear the former sort say that knowledge is of those things which are to be accepted of with great limitation and caution; that the aspiring to overmuch knowledge was the original temptation and sin whereupon ensued the fall of man; that knowledge hath in it somewhat of the serpent, and therefore where it entereth into a man it makes him swell,—*Knowledge puffeth up*;¹ that Solomon gives a censure, ‘That there is no end of making books, and that much reading is weariness of the flesh;’ and again in another place, ‘That in spacious knowledge there is much contristation, and that he that increaseth knowledge increaseth anxiety;’ that St. Paul gives a caveat, ‘That we be not spoiled through vain philosophy;’ that experience demonstrates how learned men have been arch-heretics, how learned times have been inclined to atheism, and how the contemplation of second causes doth derogate from our dependence upon God, who is the First Cause.

To discover then the ignorance and error of this opinion, and the misunderstanding in the grounds thereof, it may well appear these men do not observe or consider that it was not the pure knowledge of nature and universality, a knowledge by the light whereof man did give names unto other creatures in Paradise as they were brought before him, according unto their proprieties, which gave the occasion to the fall; but it was the proud knowledge of good and evil, with an intent in man to give law unto himself and to depend no more upon God’s commandments, which was the form of the temptation. Neither is it any quantity of knowledge, how great soever, that can make the mind of man to swell; for nothing

¹ *Scientia inflat.*

can fill, much less extend, the soul of man, but God and the contemplation of God. And therefore Solomon, speaking of the two principal senses of inquisition, the eye and the ear, affirmeth that the eye is never satisfied with seeing, nor the ear with hearing; and if there be no fulness, then is the continent greater than the content. So of knowledge itself, and the mind of man, whereto the senses are but reporters, he defineth likewise in these words, placed after that calendar or ephemerides which he maketh of the diversities of times and seasons for all actions and purposes, and concludeth thus: 'God hath made all things beautiful, or decent, in the true return of their seasons: Also he hath placed the world in man's heart, yet cannot man find out the work which God worketh from the beginning to the end;' declaring not obscurely that God hath framed the mind of man as a mirror or glass capable of the image of the universal world, and joyful to receive the impression thereof, as the eye joyeth to receive light; and not only delighted in beholding the variety of things and vicissitude of times, but raised also to find out and discern the ordinances and decrees which throughout all those changes are infallibly observed. And although he doth insinuate that the supreme or summary law of nature, which he calleth 'The work which God worketh from the beginning to the end,' is not possible to be found out by man; yet that doth not derogate from the capacity of the mind, but may be referred to the impediments, as of shortness of life, ill conjunction of labors, ill tradition of knowledge over from hand to hand, and many other inconveniences whereunto the condition of man is subject. For that nothing parcel of the world is denied to man's inquiry and invention he doth in another place rule over, when he saith, 'The spirit of man is as the lamp of God, wherewith he searcheth the inwardness of all secrets.' If then such be the capacity

and receipt of the mind of man, it is manifest that there is no danger at all in the proportion or quantity of knowledge, how large soever, lest it should make it swell or out-compass itself; no, but it is merely the quality of knowledge, which be it in quantity more or less, if it be taken without the true corrective thereof, hath in it some nature of venom or malignity, and some effects of that venom, which is ventosity or swelling. This corrective spice, the mixture whereof maketh knowledge so sovereign, is charity, which the apostle immediately addeth to the former clause. For so he saith, 'knowledge bloweth up, but charity buildeth up;' not unlike unto that which he delivereth in another place: 'If I spake,' saith he, 'with the tongues of men and angels, and had not charity, it were but as a tinkling cymbal.' Not but that it is an excellent thing to speak with the tongues of men and angels, but because, if it be severed from charity, and not referred to the good of men and mankind, it hath rather a sounding and unworthy glory than a meriting and substantial virtue. And as for that censure of Solomon concerning the excess of writing and reading books, and the anxiety of spirit which redoundeth from knowledge, and that admonition of St. Paul, 'That we be not seduced by vain philosophy;'—let those places be rightly understood, and they do indeed excellently set forth the true bounds and limitations whereby human knowledge is confined and circumscribed; and yet without any such contracting or coarctation but that it may comprehend all the universal nature of things. For these limitations are three. The first, that we do not so place our felicity in knowledge, as we forget our mortality. The second, that we make application of our knowledge to give ourselves repose and contentment, and not distaste or repining. The third, that we do not presume by the contemplation of nature to attain to the mysteries of

God. For, as touching the first of these, Solomon doth excellently expound himself in another place of the same book, where he saith : ' I saw well that knowledge recedeth as far from ignorance as light doth from darkness, and that the wise man's eyes keep watch in his head, whereas the fool roundeth about in darkness ; but withal I learned that the same mortality involveth them both.' And for the second, certain it is there is no vexation or anxiety of mind which resulteth from knowledge, other-
 10 wise than merely by accident ; for all knowledge and wonder (which is the seed of knowledge) is an impression of pleasure in itself. But when men fall to framing conclusions out of their knowledge, applying it to their particular, and ministering to themselves thereby weak
 15 fears or vast desires, there groweth that carefulness and trouble of mind which is spoken of ; for then knowledge is no more *a dry light*,¹ whereof Heraclitus the profound said, *The dry light is the best soul*;² but it becometh *a light charged with moisture*,³ being steeped and infused
 20 in the humors of the affections. And as for the third point, it deserveth to be a little stood upon, and not to be lightly passed over. For if any man shall think by view and inquiry into these sensible and material things to attain that light whereby he may reveal unto himself the
 25 nature or will of God, then indeed is he spoiled by vain philosophy ; for the contemplation of God's creatures and works produceth (having regard to the works and creatures themselves) knowledge ; but, having regard to God, no perfect knowledge, but wonder, which is broken
 30 knowledge. And therefore it was most aptly said by one of Plato's school, 'That the sense of man carrieth a resemblance with the sun, which, as we see, openeth and

¹ *Lumen siccum.* ² *Lumen siccum optima anima.*

³ *Lumen madidum, or maceratum.*

revealeth all the terrestrial globe, but then again it obscureth and concealeth the stars and celestial globe ; so doth the sense discover natural things, but it darkeneth and shutteth up divine.' And hence it is true that it hath proceeded that divers great learned men have 5 been heretical, whilst they have sought to fly up to the secrets of the Deity by the waxen wings of the senses. And as for the conceit that too much knowledge should incline a man to atheism, and that the ignorance of second causes should make a more devout dependence 10 upon God, which is the First Cause : First, it is good to ask the question which Job asked of his friends : 'Will you lie for God, as one man will do for another, to gratify him?' For certain it is that God worketh nothing in nature but by second causes ; and if they would have 15 it otherwise believed, it is mere imposture, as it were in favor towards God, and nothing else but to offer to the Author of Truth the unclean sacrifice of a lie. But farther, it is an assured truth and a conclusion of experience, that a little or superficial knowledge of philosophy may incline 20 the mind of man to atheism, but a farther proceeding therein doth bring the mind back again to religion. For in the entrance of philosophy, when the second causes, which are next unto the senses, do offer themselves to the mind of man, if it dwell and stay there it may induce 25 some oblivion of the Highest Cause ; but when a man passeth on farther, and seeth the dependence of causes and the works of providence, then, according to the allegory of the poets, he will easily believe that the highest link of nature's chain must needs be tied to the foot 30 of Jupiter's chair. To conclude therefore : Let no man, upon a weak conceit of sobriety or an ill-applied moderation, think or maintain that a man can search too far or be too well studied in the book of God's Word, or in the book of God's Works — Divinity or Philosophy ; — but 35

rather let men endeavor an endless progress or profi-
cience in both. Only let men beware that they apply
both to charity, and not to swelling ; to use, and not to
ostentation ; and again, that they do not unwisely mingle
5 or confound these learnings together.

And as for the disgraces which learning receiveth from
politics, they be of this nature : that learning doth soften
men's minds, and makes them more unapt for the honor
and exercise of arms ; that it doth mar and pervert men's
10 dispositions for matter of government and policy, in mak-
ing them too curious and irresolute by variety of reading,
or too peremptory or positive by strictness of rules and
axioms, or too immoderate and overweening by reason of
the greatness of examples, or too incompatible and dif-
15 fering from the times by reason of the dissimilitude of
examples ; or at least that it doth divert men's travails
from action and business, and bringeth them to a love of
leisure and privateness ; and that it doth bring into states
a relaxation of discipline, whilst every man is more ready
20 to argue than to obey and execute. Out of this conceit
Cato, surnamed the Censor, one of the wisest men indeed
that ever lived, when Carneades the philosopher came in
embassage to Rome, and that the young men of Rome
began to flock about him, being allured with the sweet-
25 ness and majesty of his eloquence and learning, gave
counsel in open senate that they should give him his dis-
patch with all speed, lest he should infect and enchant
the minds and affections of the youth, and at unawares
bring in an alteration of the manners and customs of the
30 state. Out of the same conceit or humor did Virgil,
turning his pen to the advantage of his country and the
disadvantage of his own profession, make a kind of sepa-
ration between policy and government and between arts
and sciences, in the verses so much renowned, attributing
35 and challenging the one to the Romans, and leaving and

yielding the other to the Grecians ; *Yours, Roman, be the lesson to govern the nations as their lord ; this is your destined culture*,¹ etc. So likewise we see that Anytus, the accuser of Socrates, laid it as an article of charge and accusation against him that he did, with the variety and power of his discourses and disputations, withdraw young men from due reverence to the laws and customs of their country ; and that he did profess a dangerous and pernicious science, which was to make the worse matter seem the better, and to suppress truth by force of eloquence and speech.

But these and the like imputations have rather a countenance of gravity than any ground of justice ; for experience doth warrant that both in persons and in times there hath been a meeting and concurrence in learning and arms, flourishing and excelling in the same men and the same ages. For as for men, there cannot be a better nor the like instance, as of that pair, Alexander the Great and Julius Cæsar the Dictator ; whereof the one was Aristotle's scholar in philosophy, and the other was Cicero's rival in eloquence ; — or if any man had rather call for scholars that were great generals than generals that were great scholars, let him take Epaminondas the Theban, or Xenophon the Athenian ; whereof the one was the first that abated the power of Sparta, and the other was the first that made way to the overthrow of the monarchy of Persia. And this concurrence is yet more visible in times than in persons, by how much an age is a greater object than a man. For both in Egypt, Assyria, Persia, Grecia, and Rome, the same that are times most renowned for arms are likewise most admired for learning ; so that the greatest authors and philosophers and the

¹ *Tu regere imperio populos, Romane, memento,
Hæ tibi erunt artes, etc.*

greatest captains and governors have lived in the same ages. Neither can it otherwise be : for as in man the ripeness of strength of the body and mind cometh much about an age, save that the strength of the body cometh
5 somewhat the more early ; so, in states, arms and learning, whereof the one correspondeth to the body, the other to the soul of man, have a concurrence or near sequence in times.

And for matter of policy and government, that learning
10 should rather hurt than enable thereunto is a thing very improbable. We see it is accounted an error to commit a natural body to empiric physicians, which commonly have a few pleasing receipts whereupon they are confident and adventurous, but know neither the causes of diseases,
15 nor the complexions of patients, nor peril of accidents, nor the true method of cures. We see it is a like error to rely upon advocates or lawyers which are only men of practice and not grounded in their books, who are many times easily surprised when matter falleth out besides
20 their experience, to the prejudice of the causes they handle. So by like reason it cannot be but a matter of doubtful consequence if states be managed by empiric statesmen, not well mingled with men grounded in learning. But, contrariwise, it is almost without instance
25 contradictory that ever any government was disastrous that was in the hands of learned governors. For howsoever it hath been ordinary with politic men to extenuate and disable learned men by the names of pedants, yet in the records of time it appeareth in many particulars
30 that the governments of princes in minority (notwithstanding the infinite disadvantage of that kind of state) have nevertheless excelled the government of princes of mature age, even for that reason which they seek to traduce, which is, that by that occasion the state hath been in the
35 hands of pedants : for so was the state of Rome for the

first five years, which are so much magnified, during the minority of Nero, in the hands of Seneca, a pedant ; so it was again for ten years' space or more, during the minority of Gordianus the younger, with great applause and contentation in the hands of Misitheus, a pedant ; so was it before that, in the minority of Alexander Severus, in like happiness, in hands not much unlike, by reason of the rule of the women, who were aided by the teachers and preceptors. Nay, let a man look into the government of the bishops of Rome, as by name into the government of Pius Quintus and Sextus Quintus in our times, who were both at their entrance esteemed but as pedantical friars, and he shall find that such popes do greater things, and proceed upon truer principles of estate, than those which have ascended to the papacy from an education and breeding in affairs of estate and courts of princes. For although men bred in learning are perhaps to seek in points of convenience and accommodating for the present, which the Italians call *reasons of state*,¹ whereof the same Pius Quintus could not hear spoken with patience, terming them inventions against religion and the moral virtues ; yet on the other side, to recompense that, they are perfect in those same plain grounds of religion, justice, honor, and moral virtue, which if they be well and watchfully pursued, there will be seldom use of those other, no more than of physic in a sound or well-dieted body. Neither can the experience of one man's life furnish examples and precedents for the events of one man's life ; for as it happeneth sometimes that the grand-child, or other descendant, resembleth the ancestor more than the son, so many times occurrences of present times may sort better with ancient examples than with those of the later or immediate times. And lastly, the wit of one

¹ *ragioni di stato.*

man can no more countervail learning, than one man's means can hold way with a common purse.

And as for those particular seducements, or indispositions of the mind for policy and government, which
5 learning is pretended to insinuate ; if it be granted that any such thing be, it must be remembered withal that learning ministereth in every of them greater strength of medicine or remedy than it offereth cause of indisposition or infirmity. For if by a secret operation it make men
10 perplexed and irresolute, on the other side by plain precept it teacheth them when, and upon what ground, to resolve ; yea, and how to carry things in suspense without prejudice till they resolve. If it make men positive and regular, it teacheth them what things are in
15 their nature demonstrative, and what are conjectural ; and as well the use of distinctions and exceptions as the latitude of principles and rules. If it mislead by disproportion or dissimilitude of examples, it teacheth men the force of circumstances, the errors of comparisons,
20 and all the cautions of application ; so that in all these it doth rectify more effectually than it can pervert. And these medicines it conveyeth into men's minds much more forcibly by the quickness and penetration of examples. For let a man look into the errors of Clement
25 the Seventh, so lively described by Guicciardine, who served under him, or into the errors of Cicero, painted out by his own pencil in his epistles to Atticus, and he will fly apace from being irresolute. Let him look into the errors of Phocion, and he will beware how he be
30 obstinate or inflexible. Let him but read the fable of Ixion, and it will hold him from being vaporous or imaginative. Let him look into the errors of Cato the Second, and he will never be one of the antipodes, to tread opposite to the present world.

35 And for the conceit that learning should dispose men

to leisure and privateness, and make men slothful, it were a strange thing if that which accustometh the mind to a perpetual motion and agitation should induce slothfulness; whereas contrariwise it may be truly affirmed that no kind of men love business for itself but those that are learned. For other persons love it for profit, as an hireling that loves the work for the wages; or for honor, as because it beareth them up in the eyes of men, and refresheth their reputation, which otherwise would wear; or because it putteth them in mind of their fortune, and giveth them occasion to pleasure and displeasure; or because it exerciseth some faculty wherein they take pride, and so entertaineth them in good humor and pleasing conceits toward themselves; or because it advanceth any other their ends. So that as it is said of untrue valors, that some men's valors are in the eyes of them that look on, so such men's industries are in the eyes of others, or at least in regard of their own designments. Only learned men love business as an action according to nature, as agreeable to health of mind as exercise is to health of body, taking pleasure in the action itself, and not in the purchase; so that of all men they are the most indefatigable, if it be towards any business which can hold or detain their mind.

And if any man be laborious in reading and study, and yet idle in business and action, it groweth from some weakness of body or softness of spirit such as Seneca speaketh of—*There are some men so fond of the shade that they think whatever is in the light is in danger*¹—and not of learning. Well may it be that such a point of a man's nature may make him give himself to learning, but it is not learning that breedeth any such point in his nature.

¹ *Quidam tam sunt umbratiles, ut putent in turbido esse quicquid in luce est.*

And that learning should take up too much time or leisure: I answer, the most active or busy man that hath been or can be, hath, no question, many vacant times of leisure, while he expecteth the tides and returns
5 of business (except he be either tedious and of no dispatch, or lightly and unworthily ambitious to meddle in things that may be better done by others); and then the question is but how those spaces and times of leisure shall be filled and spent, whether in pleasures or in
10 studies; as was well answered by Demosthenes to his adversary Æschines, that was a man given to pleasure, and told him 'that his orations did smell of the lamp: ' 'Indeed,' said Demosthenes, 'there is a great difference between the things that you and I do by lamp-light.' So
15 as no man need doubt that learning will expulse business; but rather it will keep and defend the possession of the mind against idleness and pleasure, which otherwise at unawares may enter to the prejudice of both.

Again, for that other conceit that learning should
20 undermine the reverence of laws and government, it is assuredly a mere depravation and calumny, without all shadow of truth. For to say that a blind custom of obedience should be a surer obligation than duty taught and understood, it is to affirm that a blind man may
25 tread surer by a guide than a seeing man can by a light. And it is without all controversy that learning doth make the minds of men gentle, generous, maniable, and pliant to government, whereas ignorance makes them churlish, thwart, and mutinous; and the evidence of time doth
30 clear this assertion, considering that the most barbarous, rude, and unlearned times have been most subject to tumults, seditions, and changes.

And as to the judgment of Cato the Censor, he was well punished for his blasphemy against learning, in the
35 same kind wherein he offended, for when he was past

threescore years old he was taken with an extreme desire to go to school again, and to learn the Greek tongue, to the end to peruse the Greek authors ; which doth well demonstrate that his former censure of the Grecian learning was rather an affected gravity than according to the inward sense of his own opinion. And as for Virgil's verses, though it pleased him to brave the world in taking to the Romans the art of empire, and leaving to others the arts of subjects ; yet so much is manifest, that the Romans never ascended to that height of empire till the time they had ascended to the height of other arts. For in the time of the two first Cæsars, which had the art of government in greatest perfection, there lived the best poet, Virgilius Maro ; the best historiographer, Titus Livius ; the best antiquary, Marcus Varro ; and the best or second orator, Marcus Cicero, that to the memory of man are known. As for the accusation of Socrates, the time must be remembered when it was prosecuted : which was under the Thirty Tyrants, the most base, bloody, and envious persons that have governed ; which revolution of state was no sooner over, but Socrates, whom they had made a person criminal, was made a person heroic, and his memory accumulate with honors divine and human ; and those discourses of his, which were then termed corrupting of manners, were after acknowledged for sovran medicines of the mind and manners, and so have been received ever since till this day. Let this therefore serve for answer to politics, which in their humorous severity or in their feigned gravity have presumed to throw imputations upon learning ; which redargution nevertheless — save that we know not whether our labors may extend to other ages — were not needful for the present, in regard of the love and reverence towards learning which the example and countenance of two so learned princes, Queen Elizabeth and Your Maj-

esty, being as Castor and Pollux, *shining stars*,¹ stars of excellent light and most benign influence, hath wrought in all men of place and authority in our nation.

Now therefore we come to that third sort of discredit
5 or diminution of credit, that groweth unto learning from learned men themselves, which commonly cleaveth fastest. It is either from their fortune, or from their manners, or from the nature of their studies. For the first, it is not in their power; and the second is accidental; the
10 third only is proper to be handled. But because we are not in hand with true measure, but with popular estimation and conceit, it is not amiss to speak somewhat of the two former. The derogations therefore which grow to learning from the fortune or condition of learned men,
15 are either in respect of scarcity of means, or in respect of privateness of life and meanness of employments.

Concerning want, and that it is the case of learned men usually to begin with little, and not to grow rich so fast as other men by reason they convert not their labors
20 chiefly to lucre and increase, — it were good to leave the common place in commendation of poverty to some friar to handle, to whom much was attributed by Machiavel in this point, when he said ‘that the kingdom of the clergy had been long before at an end, if the reputation and
25 reverence towards the poverty of friars had not borne out the scandal of the superfluities and excesses of bishops and prelates.’ So a man might say that the felicity and delicacy of princes and great persons had long since turned to rudeness and barbarism, if the poverty of learning had
30 not kept up civility and honor of life. But without any such advantages, it is worthy the observation what a reverent and honored thing poverty of fortune was for some ages in the Roman state, which nevertheless was a state with-

¹ *lucida sidera.*

out paradoxes. For we see what Titus Livius saith in his introduction : *If affection for my subject does not deceive me, there was never any state in the world either greater or purer or richer in good examples ; never any into which avarice and luxury made their way so late ; never any in which poverty and frugality were for so long a time held in so great honor.*¹ We see likewise, after that the state of Rome was not itself, but did degenerate, how that person that took upon him to be counsellor to Julius Cæsar after his victory, where to begin his restoration of the state, maketh it of all points the most summary to take away the estimation of wealth : *But these and all other evils will cease as soon as the worship of money ceases ; which will come to pass when neither public offices, nor other things which the masses desire, shall be purchasable.*² To conclude this point, as it was truly said, that *a blush is the color of virtue,*³ though sometime it comes from vice ; so it may be fitly said, that *poverty is the fortune of virtue,*⁴ though sometime it may proceed from misgovernment and accident. Surely Solomon hath pronounced it both in censure, *He that maketh haste to be rich shall not be innocent,*⁵ and in precept, ‘Buy the truth, and sell it not ;’ and so of wisdom and knowledge ; judging that means were to be spent upon learning, and not learning to be applied to means. And as for the privateness or obscureness (as it may be in vulgar estimation accounted)

¹ *Ceterum aut me amor negotii suscepti fallit, aut nulla unquam respublica nec major, nec sanctior, nec bonis exemplis ditior fuit ; nec in quam tam seræ avaritia luxuriaque immigraverint ; nec ubi tantus ac tam diu paupertati ac parsimoniæ honos fuerit.*

² *Verum hæc et omnia mala pariter cum honore pecuniæ desinent ; si neque magistratus, neque alia vulgo cupiendâ, venalia erunt.*

³ *Rubor est virtutis color.*

⁴ *Paupertas est virtutis fortuna.*

⁵ *Qui festinat ad divitias, non erit insons.*

of life of contemplative men : it is a theme so common to extol a private life not taxed with sensuality and sloth, in comparison and to the disadvantage of a civil life, for safety, liberty, pleasure, and dignity, or at least freedom from indignity, as no man handleth it but handleth it well ; such a consonancy it hath to men's conceits in the expressing, and to men's consents in the allowing. This only I will add, that learned men forgotten in states, and not living in the eyes of men, are like the images of Cassius and Brutus in the funeral of Junia ; of which not being represented, as many others were, Tacitus saith, *They glared through their absences.*¹

And for meanness of employment, that which is most traduced to contempt is that the government of youth is commonly allotted to them ; which age, because it is the age of least authority, it is transferred to the disesteeming of those employments wherein youth is conversant, and which are conversant about youth. But how unjust this traducement is — if you will reduce things from popularity of opinion to measure of reason — may appear in that we see men are more curious what they put into a new vessel than into a vessel seasoned, and what mould they lay about a young plant than about a plant corroborate ; so as the weakest terms and times of all things use to have the best applications and helps. And will you hearken to the Hebrew Rabbins ? ‘ Your young men shall see visions, and your old men shall dream dreams ; ’ say they, youth is the worthier age, for that visions are nearer apparitions of God than dreams. And let it be noted that howsoever the conditions of life of pedants hath been scorned upon theatres, as the ape of tyranny, and that the modern looseness or negligence hath taken no due regard to the choice of schoolmasters and tutors ;

¹ *Eo ipso præfulgebant, quod non visebantur.*

yet the ancient wisdom of the best times did always make a just complaint that states were too busy with their laws and too negligent in point of education. Which excellent part of ancient discipline hath been in some sort revived of late times by the colleges of the Jesuits ; of whom, although in regard of their superstition I may say *the better they are, the worse they are,*¹ yet in regard of this and some other points concerning human learning and moral matters, I may say as Agesilaus said to his enemy Pharnabazus, *Being what you are, I wish you were on our side.*² And thus much touching the discredits drawn from the fortunes of learned men.

As touching the manners of learned men, it is a thing personal and individual, and no doubt there be amongst them, as in other professions, of all temperatures ; but yet so as it is not without truth which is said, that *studies are transmuted into character,*³ studies have an influence and operation upon the manners of those that are conversant in them.

But upon an attentive and indifferent review, I for my part cannot find any disgrace to learning can proceed from the manners of learned men, not inherent to them as they are learned ; except it be a fault — which was the supposed fault of Demosthenes, Cicero, Cato the Second, Seneca, and many more — that because the times they read of are commonly better than the times they live in, and the duties taught better than the duties practised, they contend sometimes too far to bring things to perfection, and to reduce the corruption of manners to honesty of precepts or examples of too great height. And yet hereof they have caveats enough in their own walks. For Solon, when he was asked whether he had given his

¹ *Quo meliores, eo deteriores.*

² *Talis quum sis, utinam noster esses.*

³ *Abeunt studia in mores.*

citizens the best laws, answered wisely, 'Yea, of such as they would receive.' And Plato, finding that his own heart could not agree with the corrupt manners of his country, refused to bear place or office, saying 'That a
 5 man's country was to be used as his parents were, that is, with humble persuasions, and not with contestations.' And Cæsar's counselor put in the same caveat, *not to attempt to bring things back to their original state, now that by reason of the corruption of morals the ancient*
 10 *simplicity and purity had fallen into contempt.*¹ And Cicero noteth this error directly in Cato the second, when he writes to his friend Atticus: *Cato's intentions are excellent, but he sometimes injures the state, nevertheless; for he talks as if it were Plato's republic that we were living*
 15 *in, and not among the offscourings of that of Romulus.*² And the same Cicero doth excuse and expound the philosophers for going too far, and being too exact in their prescripts, when he saith, *Those tutors and teachers of virtue appear to have set the points of duty somewhat*
 20 *higher than nature would well bear, meaning perhaps to allow for shortcomings, and that our endeavors, aiming beyond the mark and falling short, should light at the proper place;*³ and yet himself might have said, *I am myself unequal to my own precepts,*⁴ for it was his own
 25 fault, though not in so extreme a degree.

Another fault likewise much of this kind hath been incident to learned men, which is, that they have esteemed

¹ *Non ad vetera instituta revocans, quæ jampridem corruptis moribus ludibrio sunt.*

² *Cato optime sentit, sed nocet interdum reipublicæ; loquitur enim tanquam in republica Platonis, non tanquam in facie Romuli.*

³ *Isti ipsi præceptores virtutis et magistri videntur fines officiorum paulo longius, quam natura vellet, protulisse, ut cum ad ultimum animo contendissemus, ibi tamen, ubi oportet, consideremus.*

⁴ *Monitis sum minor ipse meis.*

the preservation, good, and honor of their countries or masters before their own fortunes or safeties. For so saith Demosthenes unto the Athenians: 'If it please you to note it, my counsels unto you are not such whereby I should grow great amongst you, and you become little amongst the Grecians; but they be of that nature as they are sometimes not good for me to give, but are always good for you to follow.' And so Seneca, after he had consecrated that 'quinquennium Neronis' to the eternal glory of learned governors, held on his honest and loyal course of good and free counsel, after his master grew extremely corrupt in his government. Neither can this point otherwise be; for learning endueth men's minds with a true sense of the frailty of their persons, the casualty of their fortunes, and the dignity of their soul and vocation; so that it is impossible for them to esteem that any greatness of their own fortune can be a true or worthy end of their being and ordainment, and therefore are desirous to give their account to God, and so likewise to their masters under God (as kings and the states that they serve) in these words: *Lo, I have gained for thee,*¹ and not *Lo, I have gained for myself.*² Whereas the corrupter sort of mere politics, that have not their thoughts established by learning in the love and apprehension of duty, nor never look abroad into universality, do refer all things to themselves, and thrust themselves into the centre of the world, as if all lines should meet in them and their fortunes; never caring in all tempests what becomes of the ship of estates, so they may save themselves in the cockpit of their own fortune; whereas men that feel the weight of duty, and know the limits of self-love, use to make good their places and duties, though with peril. And if they stand in seditious and violent alterations, it is

¹ *Ecce tibi lucrifici.* ² *Ecce mihi lucrifici.*

rather the reverence which many times both adverse parts do give to honesty, than any versatile advantage of their own carriage. But for this point of tender sense and fast obligation of duty which learning doth endue the mind
5 withal, howsoever fortune may tax it, and many in the depth of their corrupt principles may despise it, yet it will receive an open allowance, and therefore needs the less disproof or excusation.

Another fault incident commonly to learned men, which
10 may be more probably defended than truly denied, is that they fail sometimes in applying themselves to particular persons. Which want of exact application ariseth from two causes: the one, because the largeness of their mind can hardly confine itself to dwell in the exquisite observa-
15 tion or examination of the nature and customs of one person; for it is a speech for a lover, and not for a wise man: *We are a sufficiently large theatre for each other.*¹ Nevertheless I shall yield that he that cannot contract the sight of his mind as well as disperse and dilate it,
20 wanteth a great faculty. But there is a second cause, which is no inability, but a rejection upon choice and judgment. For the honest and just bounds of observation by one person upon another extend no farther but to understand him sufficiently, whereby not to give him
25 offense, or whereby to be able to give him faithful counsel, or whereby to stand upon reasonable guard and caution in respect of a man's self. But to be speculative into another man, to the end to know how to work him or wind him or govern him, proceedeth from a heart that is
30 double and cloven, and not entire and ingenuous; which as in friendship it is want of integrity, so towards princes or superiors is want of duty. For the custom of the Levant, which is that subjects do forbear to gaze or fix

¹ *Satis magnum aller alteri theatrum sumus.*

their eyes upon princes, is in the outward ceremony barbarous, but the moral is good ; for men ought not by cunning and bent observations to pierce and penetrate into the hearts of kings, which the Scripture hath declared to be inscrutable. 5

There is yet another fault (with which I will conclude this part) which is often noted in learned men, that they do many times fail to observe decency and discretion in their behavior and carriage, and commit errors in small and ordinary points of actions, so as the vulgar sort of capacities do make a judgment of them in greater matters by that which they find wanting in them in smaller. But this consequence doth oft deceive men ; for which I do refer them over to that which was said by Themistocles, arrogantly and uncivilly being applied to himself out of his own mouth, but being applied to the general state of this question pertinently and justly ; when being invited to touch a lute, he said ‘ He could not fiddle, but he could make a small town a great state.’ So no doubt many may be well seen in the passages of government and policy, which are to seek in little and punctual occasions. I refer them also to that which Plato said of his master Socrates, whom he compared to the gallipots of apothecaries, which on the outside had apes and owls and antiques, but contained within sovran and precious liquors and confections ; acknowledging that to an external report he was not without superficial levities and deformities, but was inwardly replenished with excellent virtues and powers. And so much touching the point of manners of learned men. 30

But in the mean time I have no purpose to give allowance to some conditions and courses base and unworthy, wherein divers professors of learning have wronged themselves and gone too far ; such as were those trencher philosophers which in the later age of the Roman state 35

were usually in the houses of great persons, being little better than solemn parasites; of which kind Lucian maketh a merry description of the philosopher that the great lady took to ride with her in her coach, and would
5 needs have him carry her little dog, which he doing officiously and yet uncomely, the page scoffed, and said 'That he doubted the philosopher, of a Stoic, would turn to be a Cynic.' But above all the rest, the gross and palpable flattery whereunto many, not unlearned, have
10 abased and abused their wits and pens, turning, as Du Bartas saith, Hecuba into Helena, and Faustina into Lucretia, hath most diminished the price and estimation of learning. Neither is the moral dedication of books and writings, as to patrons, to be commended; for that
15 books, such as are worthy the name of books, ought to have no patrons but truth and reason; and the ancient custom was to dedicate them only to private and equal friends, or to entitle the books with their names; or if to kings and great persons, it was to some such as the argument of the book was fit and proper for. But these and the
20 like courses may deserve rather reprehension than defense.

Not that I can tax or condemn the morigeration or application of learned men to men in fortune. For the answer was good that Diogenes made to one that asked
25 him in mockery, 'How it came to pass that philosophers were the followers of rich men, and not rich men of philosophers?' He answered soberly, and yet sharply, 'Because the one sort knew what they had need of, and the other did not.' And of the like nature was the answer
30 which Aristippus made, when having a petition to Dionysius and no ear given to him, he fell down at his feet, whereupon Dionysius stayed and gave him the hearing and granted it; and afterward some person tender on the behalf of philosophy, reproved Aristippus that he would
35 offer the profession of philosophy such an indignity, as for

a private suit to fall at a tyrant's feet. But he answered, 'It was not his fault, but it was the fault of Dionysius, that had his ears in his feet.' Neither was it accounted weakness, but discretion, in him that would not dispute his best with Adrianus Cæsar ; excusing himself, 'That it was reason to yield to him that commanded thirty legions.' These and the like applications and stooping to points of necessity and convenience cannot be disallowed ; for though they may have some outward baseness, yet in a judgment truly made they are to be accounted submissions to the occasion, and not to the person. 10

Now I proceed to those errors and vanities which have intervened amongst the studies themselves of the learned, which is that which is principal and proper to the present argument ; wherein my purpose is not to make a justification of the errors, but, by a censure and separation of the errors, to make a justification of that which is good and sound, and to deliver that from the aspersion of the other. For we see that it is the manner of men to scandalize and deprave that which retaineth the state and virtue, by taking advantage upon that which is corrupt and degenerate ; as the heathens in the primitive church used to blemish and taint the Christians with the faults and corruptions of heretics. But nevertheless I have no meaning at this time to make any exact animadversion of the errors and impediments in matters of learning which are more secret and remote from vulgar opinion, but only to speak unto such as do fall under, or near unto, a popular observation. 25

There be therefore chiefly three vanities in studies, whereby learning hath been most traduced. For those things we do esteem vain which are either false or frivolous, those which either have no truth or no use ; and those persons we esteem vain which are either credulous or curious ; and curiosity is either in matter or words. So that in reason, as well as in experience, 35

there fall out to be these three distempers, as I may term them, of learning : — the first, fantastical learning ; the second, contentious learning ; and the last, delicate learning ; vain imaginations, vain altercations, and vain
5 affectations ; and with the last I will begin.

Martin Luther, conducted no doubt by an higher providence, but in discourse of reason, finding what a province he had undertaken against the bishop of Rome and the degenerate traditions of the church, and finding his own
10 solitude, being no ways aided by the opinions of his own time, was enforced to awake all antiquity, and to call former times to his succors to make a party against the present time. So that the ancient authors, both in divinity and in humanity, which had long time slept in libraries, began generally to be read and revolved. This by
15 consequence did draw on a necessity of a more exquisite travail in the languages original wherein those authors did write, for the better understanding of those authors and the better advantage of pressing and applying their
20 words. And thereof grew again a delight in their manner of style and phrase, and an admiration of that kind of writing ; which was much furthered and precipitated by the enmity and opposition that the propounders of those primitive, but seeming new, opinions had against the
25 schoolmen, who were generally of the contrary part, and whose writings were altogether in a differing style and form ; taking liberty to coin and frame new terms of art to express their own sense and to avoid circuit of speech, without regard to the pureness, pleasantness, and, as I
30 may call it, lawfulness of the phrase or word. And again, because the great labor then was with the people, of whom the Pharisees were wont to say, *This people who knoweth not the law are cursed* ;¹ for the winning and

¹ *Execrabilis ista turba quæ non novit legem.*

persuading of them there grew of necessity in chief price and request eloquence and variety of discourse, as the fittest and forciblest access into the capacity of the vulgar sort. So that these four causes concurring — the admiration of ancient authors, the hate of the schoolmen, 5 the exact study of languages, and the efficacy of preaching — did bring in an affectionate study of eloquence and copie of speech, which then began to flourish. This grew speedily to an excess; for men began to hunt more after words than matter, and more after the choiceness 10 of the phrase, and the round and clean composition of the sentence, and the sweet falling of the clauses, and the varying and illustration of their works with tropes and figures, than after the weight of matter, worth of subject, soundness of argument, life of invention, or depth of 15 judgment. Then grew the flowing and watery vein of Osorius, the Portugal bishop, to be in price. Then did Sturmius spend such infinite and curious pains upon Cicero the orator and Hermogenes the rhetorician, besides his own books of periods and imitation and the like. 20 Then did Car of Cambridge, and Ascham, with their lectures and writings, almost deify Cicero and Demosthenes, and allure all young men that were studious unto that delicate and polished kind of learning. Then did Erasmus take occasion to make the scoffing echo: *I have* 25 *wasted ten years in reading Cicero;*¹ and the echo answered in Greek: 'Onë,' *Thou ass.*² Then grew the learning of the schoolmen to be utterly despised as barbarous. In sum, the whole inclination and bent of those times was rather towards copie than weight. 30

Here therefore [is] the first distemper of learning, when men study words and not matter; whereof though I have represented an example of late times, yet it hath

¹ *Decem annos consumpsi in legendo Cicerone.*

² *Asine.*

been and will be, *to a greater or less extent*,¹ in all time. And how is it possible but this should have an operation to discredit learning, even with vulgar capacities, when they see learned men's works like the first letter of a
 5 patent or limned book ; which though it hath large flourishes, yet it is but a letter. It seems to me that Pygmalion's frenzy is a good emblem or portraiture of this vanity ; for words are but the images of matter, and except they have life of reason and invention, to fall in
 10 love with them is all one as to fall in love with a picture.

But yet notwithstanding it is a thing not hastily to be condemned, to clothe and adorn the obscurity even of philosophy itself with sensible and plausible elocution. For hereof we have great examples in Xenophon, Cicero,
 15 Seneca, Plutarch, and of Plato also in some degree. And hereof likewise there is great use ; for surely to the severe inquisition of truth, and the deep progress into philosophy, it is some hindrance ; because it is too early satisfactory to the mind of man, and quencheth the desire of
 20 further search before we come to a just period. But then if a man be to have any use of such knowledge in civil occasions, of conference, counsel, persuasion, discourse or the like, then shall he find it prepared to his hands in those authors which write in that manner. But
 25 the excess of this is so justly contemptible, that as Hercules, when he saw the image of Adonis, Venus' minion, in a temple, said in disdain, *You are no divinity*;² so there is none of Hercules' followers in learning, that is, the more severe and laborious sort of inquirers into truth,
 30 but will despise those delicacies and affectations, as indeed capable of no divineness. And thus much of the first disease or distemper of learning.

The second, which followeth, is in nature worse than

¹ *Secundum majus et minus.*

² *Nil sacri es.*

the former ; for as substance of matter is better than beauty of words, so contrariwise vain matter is worse than vain words. Wherein it seemeth the reprehension of St. Paul was not only proper for those times, but propheticall for the times following, and not only respective to divinity, but extensive to all knowledge : *Avoid the profane novelties of words, and oppositions of science falsely so called.*¹ For he assigneth two marks and badges of suspected and falsified science : the one, the novelty and strangeness of terms ; the other, the strictness of positions, which of necessity doth induce oppositions, and so questions and altercations. Surely, like as many substances in nature which are solid do putrefy and corrupt into worms, so it is the property of good and sound knowledge to putrefy and dissolve into a number of subtle, idle, unwholesome, and, as I may term them, vermiculate questions, which have indeed a kind of quickness and life of spirit, but no soundness of matter or goodness of quality. This kind of degenerate learning did chiefly reign amongst the schoolmen, who — having sharp and strong wits, and abundance of leisure, and small variety of reading, but their wits being shut up in the cells of a few authors (chiefly Aristotle their dictator) as their persons were shut up in the cells of monasteries and colleges, and knowing little history, either of nature or time — did, out of no great quantity of matter, and infinite agitation of wit, spin out unto us those laborious webs of learning which are extant in their books. For the wit and mind of man, if it work upon matter, which is the contemplation of the creatures of God, worketh according to the stuff, and is limited thereby ; but if it work upon itself, as the spider worketh his web, then it is endless, and brings forth indeed cobwebs

¹ *Devita profanas vocum novitates, et oppositiones falsi nominis scientiæ.*

of learning, admirable for the fineness of thread and work, but of no substance or profit.

This same unprofitable subtlety or curiosity is of two sorts : either in the subject itself that they handle, when
5 it is a fruitless speculation or controversy (whereof there are no small number both in divinity and philosophy) or in the manner or method of handling of a knowledge, which amongst them was this : upon every particular position or assertion to frame objections, and to those
10 objections, solutions, — which solutions were for the most part not confutations, but distinctions ; — whereas indeed the strength of all sciences is, as the strength of the old man's faggot, in the bond. For the harmony of a science, supporting each part the other, is and ought to be the
15 true and brief confutation and suppression of all the smaller sorts of objections. But, on the other side, if you take out every axiom, as the sticks of the fagot, one by one, you may quarrel with them and bend them and break them at your pleasure ; so that as was said of
20 Seneca, *He breaks up the weight and mass of the matter by verbal points and niceties*,¹ so a man may truly say of the schoolmen, *They break up the solidity and coherency of the sciences by the minuteness and nicety of their questions*.² For were it not better for a man in a fair room to
25 set up one great light, or branching candlestick of lights, than to go about with a small watch-candle into every corner ? And such is their method, that rests not so much upon evidence of truth proved by arguments, authorities, similitudes, examples, as upon particular con-
30 futations and solutions of every scruple, cavillation, and objection ; breeding for the most part one question, as fast as it solveth another ; even as in the former resem-

¹ *Verborum minutiis rerum frangit pondera.*

² *Questionum minutiis scientiarum frangunt soliditatem.*

blance, when you carry the light into one corner, you darken the rest. So that the fable and fiction of Scylla seemeth to be a lively image of this kind of philosophy or knowledge, which was transformed into a comely virgin for the upper parts, but then *was girt with howling monsters* 5 *round her beauteous waist*.¹ So the generalities of the schoolmen are for a while good and proportionable ; but then, when you descend into their distinctions and decisions, instead of a fruitful womb for the use and benefit of man's life, they end in monstrous altercations and barking 10 questions. So as it is not possible but this quality of knowledge must fall under popular contempt, the people being apt to condemn truth upon occasion of controversies and altercations, and to think they are all out of their way which never meet ; and when they see such digladia- 15 tion about subtilities and matter of no use or moment, they easily fall upon that judgment of Dionysius of Syracuse, *This is the talk of old men who have nothing to do*.²

Notwithstanding, certain it is that if those schoolmen to their great thirst of truth and unwearied travail of wit 20 had joined variety and universality of reading and contemplation, they had proved excellent lights, to the great advancement of all learning and knowledge. But as they are, they are great undertakers indeed, and fierce with dark keeping ; but as in the inquiry of the divine truth their 25 pride inclined to leave the oracle of God's word and to vanish in the mixture of their own inventions, so in the inquisition of nature they ever left the oracle of God's works, and adored the deceiving and deformed images which the unequal mirror of their own minds, or a few 30 received authors or principles, did represent unto them. And thus much for the second disease of learning.

¹ *Candida succinctam latrantibus inguina monstribus.*

² *Verba ista sunt senum otiosorum.*

For the third vice or disease of learning, which concerneth deceit or untruth, it is of all the rest the foulest, as that which doth destroy the essential form of knowledge, which is nothing but a representation of truth; for the truth of being and the truth of knowing are one, differing no more than the direct beam and the beam reflected. This vice therefore brancheth itself into two sorts: delight in deceiving, and aptness to be deceived, — imposture and credulity. Which, although they appear to be of a diverse nature, the one seeming to proceed of cunning, and the other of simplicity, yet certainly they do for the most part concur; for as the verse noteth,

*The impertinent be sure to hate;
Who loves to ask, will love to prate —*¹

an inquisitive man is a prattler, so upon the like reason a credulous man is a deceiver. As we see it in fame, that he that will easily believe rumors will as easily augment rumors and add somewhat to them of his own; which Tacitus wisely noteth when he saith, *As fast as they believe one tale they make another*;² so great an affinity hath fiction and belief.

This facility of credit, and accepting or admitting things weakly authorized or warranted, is of two kinds, according to the subject: for it is either a belief of history (or, as the lawyers speak, matter of fact), or else of matter of art and opinion. As to the former, we see the experience and inconvenience of this error in ecclesiastical history, which hath too easily received and registered reports and narrations of miracles wrought by martyrs, hermits, or monks of the desert, and other holy men, and their relics, shrines, chapels, and images; which though

¹ *Percontatorem fugito, nam garrulus idem est.*

² *Fingunt simul creduntque.*

they had a passage for a time, by the ignorance of the people, the superstitious simplicity of some, and the politic toleration of others, holding them but as divine poesies ; yet after a period of time, when the mist began to clear up, they grew to be esteemed but as old wives' fables, impostures of the clergy, illusions of spirits, and badges of Antichrist, to the great scandal and detriment of religion.

So in natural history we see there hath not been that choice and judgment used as ought to have been, as may appear in the writings of Plinius, Cardanus, Albertus, and divers of the Arabians, being fraught with much fabulous matter, a great part not only untried but notoriously untrue, to the great derogation of the credit of natural philosophy with the grave and sober kind of wits. Wherein the wisdom and integrity of Aristotle is worthy to be observed, that, having made so diligent and exquisite a history of living creatures, hath mingled it sparingly with any vain or feigned matter ; and yet on the other side hath cast all prodigious narrations which he thought worthy the recording into one book ; excellently discerning that matter of manifest truth, such whereupon observation and rule was to be built, was not to be mingled or weakened with matter of doubtful credit ; and yet again that rarities and reports that seem incredible are not to be suppressed or denied to the memory of men.

And as for the facility of credit which is yielded to arts and opinions, it is likewise of two kinds : either when too much belief is attributed to the arts themselves, or to certain authors in any art. The sciences themselves which have had better intelligence and confederacy with the imagination of man than with his reason, are three in number : Astrology, Natural Magic, and Alchemy ; of which sciences nevertheless the ends or pretenses are noble. For Astrology pretendeth to discover that corre-

spondence or concatenation which is between the superior globe and the inferior. Natural Magic pretendeth to call and reduce natural philosophy from variety of speculations to the magnitude of works. And Alchemy pretendeth to make separation of all the unlike parts of bodies which in mixtures of nature are incorporate. But the derivations and prosecutions to these ends, both in the theories and in the practices, are full of error and vanity, which the great professors themselves have sought to veil over and conceal by enigmatical writings, and referring themselves to auricular traditions and such other devices, to save the credit of impostures. And yet surely to Alchemy this right is due, that it may be compared to the husbandman whereof Æsop makes the fable, that when he died told his sons that he had left unto them gold buried under ground in his vineyard ; and they digged over all the ground, and gold they found none, but by reason of their stirring and digging the mould about the roots of their vines, they had a great vintage the year following ; so assuredly the search and stir to make gold hath brought to light a great number of good and fruitful inventions and experiments, as well for the disclosing of nature as for the use of man's life.

And as for the overmuch credit that hath been given unto authors in sciences, in making them dictators, that their words should stand, and not consuls to give advice ; the damage is infinite that sciences have received thereby, as the principal cause that hath kept them low, at a stay, without growth or advancement. For hence it hath comen that in arts mechanical the first deviser comes shortest, and time addeth and perfecteth, but in sciences the first author goeth furthest, and time leeseth and corrupteth. So we see, artillery, sailing, printing, and the like, were grossly managed at the first, and by time accommodated and refined ; but contrariwise the philosophies and sciences

of Aristotle, Plato, Democritus, Hippocrates, Euclides, Archimedes, of most vigor at the first, and by time degenerate and embased. Whereof the reason is no other but that in the former many wits and industries have contributed in one, and in the latter many wits and industries have been spent about the wit of some one, whom many times they have rather depraved than illustrated. For as water will not ascend higher than the level of the first spring-head from whence it descendeth, so knowledge derived from Aristotle, and exempted from liberty of examination, will not rise again higher than the knowledge of Aristotle. And therefore although the position be good, *A man who is learning must be content to believe what he is told*,¹ yet it must be coupled with this, *When he has learned it he must exercise his own judgment and see whether it be worthy of belief*;² for disciples do owe unto masters only a temporary belief, and a suspension of their own judgment till they be fully instructed, and not an absolute resignation or perpetual captivity. And therefore to conclude this point, I will say no more but : So let great authors have their due, as time, which is the author of authors, be not deprived of his due, which is, further and further to discover truth. Thus have I gone over these three diseases of learning ; besides the which there are some other, rather peccant humors than formed diseases, which nevertheless are not so secret and intrinsic but that they fall under a popular observation and traducement, and therefore are not to be passed over.

The first of these is the extreme affecting of two extremities, — the one antiquity, the other novelty ; wherein it seemeth the children of time do take after the nature and malice of their father. For as he devoureth his

¹ *Oportet discentem credere.*

² *Oportet edoctum judicare.*

children, so one of them seeketh to devour and suppress the other, while antiquity envieth there should be new additions, and novelty cannot be content to add, but it must deface. Surely the advice of the prophet is the true direction in this matter, *Stand ye in the old ways and see which is the good and right way, and walk therein.*¹ Antiquity deserveth that reverence, that men should make a stand thereupon and discover what is the best way; but when the discovery is well taken, then to make progression. And to speak truly, *Antiquity in time is the youth of the world.*² These times are the ancient times, when the world is ancient, and not those which we account ancient *by an inverted reckoning,*³ by a computation backward from ourselves.

Another error, induced by the former, is a distrust that anything should be now to be found out, which the world should have missed and passed over so long time; as if the same objection were to be made to time that Lucian maketh to Jupiter and other the heathen gods, of which he wondereth that they begot so many children in old time and begot none in his time, and asketh whether they were become septuagenary, or whether the law Papia, made against old men's marriages, had restrained them. So it seemeth men doubt lest time is become past children and generation; wherein contrariwise we see commonly the levity and unconstancy of men's judgments, which, till a matter be done, wonder that it can be done, and as soon as it is done wonder again that it was no sooner done; as we see in the expedition of Alexander into Asia, which at first was prejudged as a vast and impossible enterprise, and yet afterwards it pleaseth Livy

¹ *Stare super vias antiquas, et videte quænam sit via recta et bona, et ambulate in ea.*

² *Antiquitas sæculi juvenus mundi.* ³ *Ordine retrogrado.*

to make no more of it than this, *It was but taking courage to despise vain apprehensions.*¹ And the same happened to Columbus in the western navigation. But in intellectual matters it is much more common ; as may be seen in most of the propositions of Euclid, which till 5 they be demonstrate, they seem strange to our assent ; but being demonstrate, our mind accepteth of them by a kind of relation, as the lawyers speak, as if we had known them before.

Another error that hath also some affinity with the 10 former, is a conceit that of former opinions or sects, after variety and examination, the best hath still prevailed and suppressed the rest ; so as, if a man should begin the labor of a new search, he were but like to light upon somewhat formerly rejected, and by rejection brought 15 into oblivion ; as if the multitude, or the wisest for the multitude's sake, were not ready to give passage rather to that which is popular and superficial than to that which is substantial and profound ; for the truth is that time seemeth to be of the nature of a river or stream, which carrieth 20 down to us that which is light and blown up, and sinketh and drowneth that which is weighty and solid.

Another error, of a diverse nature from all the former, is the over-early and peremptory reduction of knowledge into arts and methods ; from which time, commonly, sci- 25 ences receive small or no augmentation. But as young men, when they knit and shape perfectly, do seldom grow to a further stature, so knowledge, while it is in aphorisms and observations, it is in growth ; but when it once is comprehended in exact methods, it may perchance be 30 further polished and illustrate, and accommodated for use and practice, but it increaseth no more in bulk and substance.

¹ *Nil aliud quam bene ausus vana contemnere.*

Another error, which doth succeed that which we last mentioned, is that after the distribution of particular arts and sciences, men have abandoned universality, or *the prime philosophy*; ¹ which cannot but cease and stop all progression. For no perfect discovery can be made upon a flat or a level; neither is it possible to discover the more remote and deeper parts of any science, if you stand but upon the level of the same science, and ascend not to a higher science.

10 Another error hath proceeded from too great a reverence, and a kind of adoration, of the mind and understanding of man; by means whereof men have withdrawn themselves too much from the contemplation of nature and the observations of experience, and have tumbled up
15 and down in their own reason and conceits. Upon these intellectualists, which are notwithstanding commonly taken for the most sublime and divine philosophers, Heraclitus gave a just censure, saying, 'Men sought truth in their own little worlds, and not in the great and common world;'
20 for they disdain to spell, and so by degrees to read, in the volume of God's works; and contrariwise by continual meditation and agitation of wit do urge and as it were invoke their own spirits to divine, and give oracles unto them, whereby they are deservedly deluded.

25 Another error that hath some connexion with this latter is that men have used to infect their meditations, opinions, and doctrines, with some conceits which they have most admired, or some sciences which they have most applied; and given all things else a tincture according to
30 them, utterly untrue and improper. So hath Plato intermingled his philosophy with theology, and Aristotle with logic, and the second school of Plato—Proclus and the rest—with the mathematics. For these were the arts

¹ *Philosophia prima.*

which had a kind of primogeniture with them severally. So have the alchemists made a philosophy out of a few experiments of the furnace ; and Gilbertus, our countryman, hath made a philosophy out of the observations of a loadstone. So Cicero, when, reciting the several opinions of the nature of the soul, he found a musician that held the soul was but a harmony, saith pleasantly, *He was faithful to his profession.*¹ But of these conceits Aristotle speaketh seriously and wisely, when he saith, *They who take account of but few things, find it easy to pass judgment.*²

Another error is an impatience of doubt, and haste to assertion without due and mature suspension of judgment. For the two ways of contemplation are not unlike the two ways of action commonly spoken of by the ancients : the one plain and smooth in the beginning, and in the end impassable, the other rough and troublesome in the entrance, but after a while fair and even. So it is in contemplation ; if a man will begin with certainties, he shall end in doubts, but if he will be content to begin with doubts, he shall end in certainties.

Another error is in the manner of the tradition and delivery of knowledge, which is for the most part magistral and peremptory, and not ingenuous and faithful ; in a sort as may be soonest believed, and not easiliest examined. It is true that in compendious treatises for practice that form is not to be disallowed. But in the true handling of knowledge, men ought not to fall either, on the one side, into the vein of Velleius the Epicurean, *who feared nothing so much as the seeming to be in doubt about anything,*³ nor on the other side into Socrates his

¹ *Hic ab arte sua non recessit, etc.*

² *Qui respiciunt ad pauca de facili pronunciant.*

³ *Nil tam metuens, quam ne dubitare aliqua de re videretur.*

ironical doubting of all things ; but to propound things sincerely, with more or less asseveration, as they stand in a man's own judgment proved more or less.

Other errors there are in the scope that men propound
5 to themselves, whereunto they bend their endeavors ; for whereas the more constant and devote kind of professors of any science ought to propound to themselves to make some additions to their science, they convert their labors to aspire to certain second prizes, as to be a profound
10 interpreter or commenter, to be a sharp champion or defender, to be a methodical compounder or abridger ; and so the patrimony of knowledge cometh to be sometimes improved, but seldom augmented.

But the greatest error of all the rest is the mistaking or
15 misplacing of the last or furthest end of knowledge. For men have entered into a desire of learning and knowledge, sometimes upon a natural curiosity and inquisitive appetite ; sometimes to entertain their minds with variety and delight ; sometimes for ornament and reputation ; and
20 sometimes to enable them to victory of wit and contradiction ; and most times for lucre and profession ; and seldom sincerely to give a true account of their gift of reason, to the benefit and use of men. As if there were sought in knowledge a couch, whereupon to rest a search-
25 ing and restless spirit ; or a terrace, for a wandering and variable mind to walk up and down with a fair prospect ; or a tower of state, for a proud mind to raise itself upon ; or a fort or commanding ground, for strife and contention ; or a shop, for profit or sale ; and not a rich store-
30 house, for the glory of the Creator and the relief of man's estate. But this is that which will indeed dignify and exalt knowledge, if contemplation and action may be more nearly and straitly conjoined and united together than they have been ; a conjunction like unto that of the
35 two highest planets, Saturn the planet of rest and con-

templation, and Jupiter the planet of civil society and action. Howbeit, I do not mean, when I speak of use and action, that end before-mentioned of the applying of knowledge to lucre and profession, for I am not ignorant how much that diverteth and interrupteth the prosecution and advancement of knowledge; like unto the golden ball thrown before Atalanta, which while she goeth aside and stoopeth to take up, the race is hindered:—

*She leaves her course, and lifts the rolling gold.*¹

Neither is my meaning, as was spoken of Socrates, to call philosophy down from heaven to converse upon the earth: that is, to leave natural philosophy aside, and to apply knowledge only to manners and policy. But as both heaven and earth do conspire and contribute to the use and benefit of man, so the end ought to be, from both philosophies to separate and reject vain speculations and whatsoever is empty and void, and to preserve and augment whatsoever is solid and fruitful; that knowledge may not be as a courtesan, for pleasure and vanity only, or as a bond-woman, to acquire and gain to her master's use, but as a spouse, for generation, fruit, and comfort.

Thus have I described and opened, as by a kind of dissection, those peccant humors—the principal of them—which hath not only given impediment to the proficience of learning, but have given also occasion to the traducement thereof; wherein if I have been too plain, it must be remembered, *Faithful are the wounds of a friend, but the kisses of an enemy are deceitful.*² This, I think, I have gained, that I ought to be the better believed in that which I shall say pertaining to commendation, because I have proceeded so freely in that which concerneth cen-

¹ *Declinat cursus, aurumque volubile tollit.*

² *Fidelia vulnera amantis, sed dolosa oscula malignantis.*

sure. And yet I have no purpose to enter into a laudative of learning, or to make a hymn to the Muses, though I am of opinion that it is long since their rites were duly celebrated ; but my intent is, without varnish or amplification justly to weigh the dignity of knowledge in the balance with other things, and to take the true value thereof by testimonies and arguments divine and human.

First therefore, let us seek the dignity of knowledge in the arch-type or first platform, which is in the attributes and acts of God, as far as they are revealed to man and may be observed with sobriety ; wherein we may not seek it by the name of learning, for all learning is knowledge acquired, and all knowledge in God is original ; and therefore we must look for it by another name, that of wisdom or sapience, as the Scriptures call it.

It is so then, that in the work of the creation we see a double emanation of virtue from God : the one referring more properly to power, the other to wisdom ; the one expressed in making the subsistence of the matter, and the other in disposing the beauty of the form. This being supposed, it is to be observed that, for anything which appeareth in the history of the creation, the confused mass and matter of heaven and earth was made in a moment ; and the order and disposition of that chaos or mass was the work of six days. Such a note of difference it pleased God to put upon the works of power and the works of wisdom. Wherewith concurrerth that in the former it is not set down that God said, ' Let there be heaven and earth,' as it is set down of the works following, but actually that God made heaven and earth ; the one carrying the style of a manufacture, and the other of a law, decree, or counsel.

To proceed to that which is next in order, from God to spirits. We find, as far as credit is to be given to the celestial hierarchy of that supposed Dionysius the senator

of Athens, the first place or degree is given to the angels of love, which are termed seraphim, the second to the angels of light, which are termed cherubim, and the third and so following places, to thrones, principalities, and the rest, which are all angels of power and ministry ; 5 so as the angels of knowledge and illumination are placed before the angels of office and domination.

To descend from spirits and intellectual forms to sensible and material forms, we read the first form that was created was light, which hath a relation and corre- 10 spondence in nature and corporal things to knowledge in spirits and incorporeal things.

So in the distribution of days, we see the day wherein God did rest and contemplate his own works was blessed above all the days wherein he did effect and accomplish 15 them.

After the creation was finished, it is set down unto us that man was placed in the garden to work therein ; which work, so appointed to him, could be no other than work of contemplation, — that is, when the end of work is 20 but for exercise and experiment, not for necessity ; for there being then no reluctance of the creature, nor sweat of the brow, man's employment must of consequence have been matter of delight in the experiment, and not matter of labor for the use. Again, the first acts which 25 man performed in Paradise consisted of the two summary parts of knowledge : the view of creatures, and the imposition of names. As for the knowledge which induced the fall, it was, as was touched before, not the natural knowledge of creatures, but the moral knowledge of good 30 and evil ; wherein the supposition was that God's commandments or prohibitions were not the originals of good and evil, but that they had other beginnings, which man aspired to know, to the end to make a total defection from God, and to depend wholly upon himself. 35

To pass on. In the first event or occurrence after the fall of man, we see — as the Scriptures have infinite mysteries, not violating at all the truth of the story or letter — an image of the two estates, the contemplative state and
5 the active state, figured in the two persons of Abel and Cain, and in the two simplest and most primitive trades of life : that of the shepherd — who, by reason of his leisure, his rest in a place, and living in view of heaven, is a lively image of a contemplative life — and that of the
10 husbandman ; where we see again the favor and election of God went to the shepherd, and not to the tiller of the ground.

So in the age before the flood, the holy records within those few memorials, which are there entered and regis-
15 tered, have vouchsafed to mention and honor the name of the inventors and authors of music and works in metal. In the age after the flood, the first great judgment of God upon the ambition of man was the confusion of tongues, whereby the open trade and intercourse of learning and
20 knowledge was chiefly imbarred.

To descend to Moses the lawgiver, and God's first pen. He is adorned by the Scriptures with this addition and commendation, that he was 'seen in all the learning of the Egyptians,' which nation we know was one of the
25 most ancient schools of the world ; for so Plato brings in the Egyptian priest saying unto Solon, 'You Grecians are ever children ; you have no knowledge of antiquity, nor antiquity of knowledge.' Take a view of the ceremonial law of Moses. You shall find, besides the prefiguration
30 of Christ, the badge or difference of the people of God, the exercise and impression of obedience, and other divine uses and fruits thereof, that some of the most learned Rabbins have travailed profitably and profoundly to observe, some of them a natural, some of them a moral
35 sense or reduction of many of the ceremonies and ordi-

nances. As in the law of the leprosy, where it is said, 'If the whiteness have overspread the flesh, the patient may pass abroad for clean; but if there be any whole flesh remaining, he is to be shut up for unclean,' one of them noteth a principle of nature, that putrefaction is more contagious before maturity than after, and another noteth a position of moral philosophy, that men abandoned to vice do not so much corrupt manners, as those that are half good and half evil. So in this and very many other places in that law there is to be found, besides the theological sense, much aspersion of philosophy.

So likewise in that excellent book of Job, if it be revolved with diligence, it will be found pregnant and swelling with natural philosophy; as for example, cosmography and the roundness of the world: *He stretcheth out the north over the empty place, and hangeth the earth upon nothing;*¹ wherein the pensilence of the earth, the pole of the north, and the finiteness or convexity of heaven are manifestly touched. So again matter of astronomy: *By his spirit he hath garnished the heavens; his hand hath formed the crooked Serpent.*² And in another place: *Shalt thou be able to join together the shining stars the Pleiades, or canst thou stop the turning about of Arcturus?*³ where the fixing of the stars, ever standing at equal distance, is with great elegancy noted. And in another place: *Who maketh Arcturus, and Orion, and Hyades, and the secrets of the south?*⁴ where again he takes knowledge of the depression of the southern pole,

¹ *Qui extendit aquilonem super vacuum, et appendit terram super nihilum.*

² *Spiritus ejus ornavit cælos, et obstetricante manu ejus eductus est Coluber tortuosus.*

³ *Nunquid conjungere valebis micantes stellas Pleiadas, aut gyrum Arcturi poteris dissipare?*

⁴ *Qui facit Arcturum, et Oriona, et Hyadas, et interiora Austris,*

calling it the secrets of the south, because the southern stars were in that climate unseen. Matter of generation : *Hast thou not milked me as milk, and curdled me like cheese ?*¹ Matter of minerals : *Silver hath beginnings of its veins, and gold hath a place wherein it is melted; iron is taken out of the earth, and stone melted with heat is turned into brass ;*² and so forwards in that chapter.

So likewise in the person of Solomon the king, we see the gift or endowment of wisdom and learning, both in Solomon's petition and in God's assent thereunto, preferred before all other terrene and temporal felicity. By virtue of which grant or donative of God, Solomon became enabled not only to write those excellent parables or aphorisms concerning divine and moral philosophy, but also to compile a natural history of all verdure, from the cedar upon the mountain to the moss upon the wall (which is but a rudiment between putrefaction and an herb), and also of all things that breathe or move. Nay, the same Solomon the king, although he excelled in the glory of treasure and magnificent buildings, of shipping and navigation, of service and attendance, of fame and renown, and the like, yet he maketh no claim to any of those glories, but only to the glory of inquisition of truth. For so he saith expressly, 'The glory of God is to conceal a thing, but the glory of the king is to find it out ;' as if, according to the innocent play of children, the Divine Majesty took delight to hide his works to the end to have them found out ; and as if kings could not obtain a greater honor than to be God's playfellows in that game, considering the great commandment of wits and means, whereby nothing needeth to be hidden from them.

¹ *Annon sicut lac mulsisti me, et sicut caseum coagulasti me ?*

² *Habet argentum venarum suarum principia ; et auro locus est in quo constatur, ferrum de terra tollitur, et lapis solutus calore in aes vertitur.*

Neither did the dispensation of God vary in the times after our Saviour came into the world ; for our Saviour himself did first show his power to subdue ignorance by his conference with the priests and doctors of the law, before he showed his power to subdue nature by his miracles. And the coming of the Holy Spirit was chiefly figured and expressed in the similitude and gift of tongues, which are but *carriers of knowledge*.¹

So in the election of those instruments which it pleased God to use for the plantation of the faith, notwithstanding that at the first he did employ persons altogether unlearned otherwise than by inspiration, more evidently to declare his immediate working, and to abase all human wisdom or knowledge ; yet nevertheless that counsel of his was no sooner performed, but in the next vicissitude and succession he did send his divine truth into the world waited on with other learnings, as with servants or handmaids. For so we see St. Paul, who was only learned amongst the apostles, had his pen most used in the Scriptures of the New Testament.

So again, we find that many of the ancient bishops and fathers of the Church were excellently read and studied in all the learning of the heathen ; insomuch that the edict of the emperor Julianus, whereby it was interdicted unto Christians to be admitted into schools, lectures, or exercises of learning, was esteemed and accounted a more pernicious engine and machination against the Christian faith, than were all the sanguinary prosecutions of his predecessors. Neither could the emulation and jealousy of Gregory, the first of that name, bishop of Rome, ever obtain the opinion of piety or devotion, but contrariwise received the censure of humor, malignity, and pusillanimity, even amongst holy men ; in that he de-

¹ *Vehicula scientiæ.*

signed to obliterate and extinguish the memory of heathen antiquity and authors. But contrariwise it was the Christian Church, which, amidst the inundations of the Scythians on the one side from the north-west, and the
5 Saracens from the east, did preserve in the sacred lap and bosom thereof the precious relics even of heathen learning, which otherwise had been extinguished as if no such thing had ever been.

And we see before our eyes that, in the age of our
10 selves and our fathers, when it pleased God to call the church of Rome to account for their degenerate manners and ceremonies, and sundry doctrines obnoxious and framed to uphold the same abuses, at one and the same time it was ordained by the Divine Providence that there
15 should attend withal a renovation and new spring of all other knowledges. And on the other side we see the Jesuits, who partly in themselves, and partly by the emulation and provocation of their example, have much quickened and strengthened the state of learning, — we see, I
20 say, what notable service and reparation they have done to the Roman see.

Wherefore, to conclude this part, let it be observed that there be two principal duties and services, besides ornament and illustration, which philosophy and human learning do perform to faith and religion. The one, because
25 they are an effectual inducement to the exaltation of the glory of God. For as the Psalms and other Scriptures do often invite us to consider and magnify the great and wonderful works of God, so if we should rest only in the contemplation of the exterior of them, as they first offer
30 themselves to our senses, we should do a like injury unto the majesty of God, as if we should judge or construe of the store of some excellent jeweller by that only which is set out toward the street in his shop. The other, because
35 they minister a singular help and preservative against

unbelief and error. For our Saviour saith, 'You err, not knowing the Scriptures, nor the power of God;' laying before us two books or volumes to study, if we will be secured from error,—first the Scriptures, revealing the will of God, and then the creatures, expressing his power. 5 Whereof the latter is a key unto the former, not only opening our understanding to conceive the true sense of the Scriptures, by the general notions of reason and rules of speech; but chiefly opening our belief, in drawing us into a due meditation of the omnipotency of God, which 10 is chiefly signed and engraven upon his works. Thus much therefore for divine testimony and evidence concerning the true dignity and value of learning.

As for human proofs, it is so large a field, as, in a discourse of this nature and brevity, it is fit rather to use 15 choice of those things which we shall produce, than to embrace the variety of them. First, therefore, in the degrees of human honor amongst the heathen, it was the highest to obtain to a veneration and adoration as a God. This unto the Christians is as the forbidden fruit. But 20 we speak now separately of human testimony, according to which that which the Grecians call 'apotheosis,' and the Latins *a return to the company of the gods*,¹ was the supreme honor which man could attribute unto man; specially when it was given, not by a formal decree or 25 act of state, as it was used among the Roman Emperors, but by an inward assent and belief. Which honor being so high, had also a degree or middle term; for there were reckoned above human honors, honors heroical and divine, in the attribution and distribution of which 30 honors we see antiquity made this difference: that whereas founders and uniters of states and cities, law-givers, extirpers of tyrants, fathers of the people, and

¹ *Relatio inter divos.*

other eminent persons in civil merit, were honored but with the titles of worthies or demigods, such as were Hercules, Theseus, Minos, Romulus, and the like ; on the other side, such as were inventors and authors of new
5 arts, endowments, and commodities towards man's life, were ever consecrated amongst the gods themselves, as was Ceres, Bacchus, Mercurius, Apollo, and others. And justly ; for the merit of the former is confined within the circle of an age or a nation, and is like fruitful showers,
10 which though they be profitable and good, yet serve but for that season, and for a latitude of ground where they fall ; but the other is indeed like the benefits of heaven, which are permanent and universal. The former, again, is mixed with strife and perturbation ; but the latter hath
15 the true character of divine presence, coming in *with a gentle air*,¹ without noise or agitation.

Neither is certainly that other merit of learning, in repressing the inconveniences which grow from man to man, much inferior to the former, of relieving the necessities which arise from nature. Which merit was lively
20 set forth by the ancients in that feigned relation of Orpheus' theatre, where all beasts and birds assembled, and, forgetting their several appetites, some of prey, some of game, some of quarrel, stood all sociably together, listening unto the airs and accords of the harp ; the sound
25 whereof no sooner ceased, or was drowned by some louder noise, but every beast returned to his own nature. Wherein is aptly described the nature and condition of men, who are full of savage and unreclaimed desires of
30 profit, of lust, of revenge ; which as long as they give ear to precepts, to laws, to religion, sweetly touched with eloquence and persuasion of books, of sermons, of harangues, so long is society and peace maintained ; but if

¹ *Aura leni.*

these instruments be silent, or that sedition and tumult make them not audible, all things dissolve into anarchy and confusion.

But this appeareth more manifestly, when kings themselves, or persons of authority under them, or other governors in commonwealths and popular estates, are endued with learning. For although he might be thought partial to his own profession, that said, 'Then should people and estates be happy, when either kings were philosophers, or philosophers kings;' yet so much is verified by experience, that under learned princes and governors there have been ever the best times. For howsoever kings may have their imperfections in their passions and customs, yet if they be illuminate by learning, they have those notions of religion, policy, and morality, which do preserve them and refrain them from all ruinous and peremptory errors and excesses; whispering evermore in their ears, when counselors and servants stand mute and silent. And senators or counselors likewise, which be learned, do proceed upon more safe and substantial principles than counselors which are only men of experience; the one sort keeping dangers afar off, whereas the other discover them not till they come near hand, and then trust to the agility of their wit to ward or avoid them.

Which felicity of times under learned princes (to keep still the law of brevity, by using the most eminent and selected examples) both best appear in the age which passed from the death of Domitianus the emperor until the reign of Commodus, comprehending a succession of six princes, all learned, or singular favorers and advancers of learning. Which age for temporal respects was the most happy and flourishing that ever the Roman Empire, which then was a model of the world, enjoyed; a matter revealed and prefigured unto Domitian in a dream the night before he was slain, for he thought there was

grown behind upon his shoulders a neck and a head of gold, which came accordingly to pass in those golden times which succeeded. Of which princes we will make some commemoration ; wherein although the matter will
 5 be vulgar, and may be thought fitter for a declamation than agreeable to a treatise enfolded as this is ; yet because it is pertinent to the point in hand, and *Apollo does not keep his bow always bent*,¹ and to name them only were too naked and cursory, I will not omit it altogether.
 10

The first was Nerva, the excellent temper of whose government is by a glance in Cornelius Tacitus touched to the life : *The godlike Nerva united and reconciled two things which used not to go together—government and*
 15 *liberty*.² And in token of his learning, the last act of his short reign left to memory was a missive to his adopted son Trajan, proceeding upon some inward discontent at the ingratitude of the times, comprehended in a verse of Homer's :

20 O Phœbus, with thy shafts avenge these tears.³

Trajan, who succeeded, was for his person not learned ; but if we will hearken to the speech of our Saviour, that saith, ' He that receiveth a prophet in the name of a prophet, shall have a prophet's reward,' he deserveth to
 25 be placed amongst the most learned princes. For there was not a greater admirer of learning, or benefactor of learning,—a founder of famous libraries, a perpetual advancer of learned men to office, and a familiar converser with learned professors and preceptors, who were noted
 30 to have then most credit in court. On the other side,

¹ *Neque semper arcum tendit Apollo.*

² *Postquam divus Nerva res olim insociabiles miscuisset, imperium et libertatem.*

³ *Telis, Phœbe, tuis lacrymas ulciscere nostras.*

how much Trajan's virtue and government was admired and renowned, surely no testimony of grave and faithful history doth more lively set forth than that legend tale of Gregorius Magnus, bishop of Rome, who was noted for the extreme envy he bore towards all heathen excellency ; 5 and yet he is reported, out of the love and estimation of Trajan's moral virtues, to have made unto God passionate and fervent prayers for the delivery of his soul out of hell, and to have obtained it, with a caveat that he should make no more such petitions. In this prince's time also 10 the persecutions against the Christians received intermission, upon the certificate of Plinius Secundus, a man of excellent learning, and by Trajan advanced.

Adrian, his successor, was the most curious man that lived, and the most universal inquirer ; insomuch as it 15 was noted for an error in his mind that he desired to comprehend all things, and not to reserve himself for the worthiest things ; falling into the like humor that was long before noted in Philip of Macedon, who, when he would needs over-rule and put down an excellent musician 20 in an argument touching music, was well answered by him again, 'God forbid, Sir,' saith he, 'that your fortune should be so bad as to know these things better than I.' It pleased God likewise to use the curiosity of this emperor as an inducement to the peace of his church in 25 those days. For having Christ in veneration, not as a God or Saviour, but as a wonder or novelty, and having his picture in his gallery, matched with Apollonius — with whom, in his vain imagination, he thought He had some conformity — yet it served the turn to allay the bitter 30 hatred of those times against the Christian name, so as the church had peace during his time. And for his government civil, although he did not attain to that of Trajan's in glory of arms or perfection of justice, yet in deserving of the weal of the subject he did exceed him. For 35

Trajan erected many famous monuments and buildings, insomuch as Constantine the Great in emulation was wont to call him 'Parietaria,' wall-flower, because his name was upon so many walls ; but his buildings and works were more
5 of glory and triumph than use and necessity. But Adrian spent his whole reign, which was peaceable, in a perambulation or survey of the Roman Empire, giving order and making assignation where he went for re-edifying of cities, towns, and forts decayed, and for cutting of rivers
10 and streams, and for making bridges and passages, and for policing of cities and commonalties with new ordinances and constitutions, and granting new franchises and incorporations ; so that his whole time was a very restoration of all the lapses and decays of former times.

15 Antoninus Pius, who succeeded him, was a prince excellently learned, and had the patient and subtle wit of a schoolman ; insomuch as in common speech — which leaves no virtue untaxed — he was called 'cymini sector,' a carver or divider of cummin seed, which is one of the
20 least seeds ; such a patience he had and settled spirit to enter into the least and most exact differences of causes, a fruit no doubt of the exceeding tranquility and serenity of his mind ; which being no ways charged or encumbered either with fears, remorse, or scruples, but having been
25 noted for a man of the purest goodness, without all fiction or affectation, that hath reigned or lived, made his mind continually present and entire. He likewise approached a degree nearer unto Christianity, and became, as Agrippa said unto St. Paul, 'half a Christian ;' holding their religion
30 and law in good opinion, and not only ceasing persecution, but giving way to the advancement of Christians.

There succeeded him the first *godlike brothers*,¹ the two adoptive brethren, Lucius Commodus Verus, son to Ælius

¹ *Divi fratres.*

Verus, who delighted much in the softer kind of learning, and was wont to call the poet Martial his Virgil, and Marcus Aurelius Antoninus; whereof the latter, who obscured his colleague and survived him long, was named the Philosopher. Who as he excelled all the rest in learning, so he excelled them likewise in perfection of all royal virtues; insomuch as Julianus the emperor, in his book entitled 'Cæsares,' being as a pasquil or satire to deride all his predecessors, feigned that they were all invited to a banquet of the gods, and Silenus the jester sat at the nether end of the table, and bestowed a scoff on every one as they came in; but when Marcus Philosophus came in, Silenus was graveled and out of countenance, not knowing where to carp at him, save at the last he gave a glance at his patience towards his wife. And the virtue of this prince, continued with that of his predecessor, made the name of Antoninus so sacred in the world, that though it were extremely dishonored in Commodus, Caracalla, and Heliogabalus, who all bare the name, yet when Alexander Severus refused the name because he was a stranger to the family, the Senate with one acclamation said, *Let the name of Antoninus be as the name of Augustus*.¹ In such renown and veneration was the name of these two princes in those days, that they would have had it as a perpetual addition in all the emperors' style. In this emperor's time also, the church for the most part was in peace; so as in this sequence of six princes we do see the blessed effects of learning in sovereignty, painted forth in the greatest table of the world.

But for a tablet or picture of smaller volume — not presuming to speak of Your Majesty that liveth — in my judgment the most excellent is that of Queen Elizabeth, your immediate predecessor in this part of Britain; a

¹ *Quomodo Augustus, sic et Antoninus.*

prince that, if Plutarch were now alive to write lives by parallels, would trouble him, I think, to find for her a parallel amongst women. This lady was endued with learning in her sex singular, and rare even amongst masculine princes, — whether we speak of learning of language or of science, modern or ancient, divinity or humanity. And unto the very last year of her life she accustomed to appoint set hours for reading, scarcely any young student in an university more daily or more dully. As for her
10 government, I assure myself I shall not exceed if I do affirm that this part of the island never had forty-five years of better times ; and yet not through the calmness of the season, but through the wisdom of her regiment.

For if there be considered of the one side the truth
15 of religion established, the constant peace and security, the good administration of justice, the temperate use of the prerogative not slackened nor much strained, the flourishing state of learning, sortable to so excellent a patroness, the convenient estate of wealth and means,
20 both of crown and subject, the habit of obedience, and the moderation of discontents ; and there be considered on the other side the differences of religion, the troubles of neighbor countries, the ambition of Spain and opposition of Rome ; and then that she was solitary and of her-
25 self ; these things, I say, considered, as I could not have chosen an instance so recent and so proper, so I suppose I could not have chosen one more remarkable or eminent to the purpose now in hand, which is concerning the conjunction of learning in the prince with felicity in the
30 people.

Neither hath learning an influence and operation only upon civil merit and moral virtue, and the arts or temperature of peace and peaceable government, but likewise it hath no less power and efficacy in enablement
35 towards martial and military virtue and prowess ; as may

be notably represented in the examples of Alexander the Great and Cæsar the Dictator, mentioned before, but now in fit place to be resumed. Of whose virtues and acts in war there needs no note or recital, having been the wonders of time in that kind ; but of their affections towards learning, and perfections in learning, it is pertinent to say somewhat.

Alexander was bred and taught under Aristotle the great philosopher, who dedicated divers of his books of philosophy unto him. He was attended with Callisthenes¹⁰ and divers other learned persons, that followed him in camp throughout his journeys and conquests. What price and estimation he had learning in, doth notably appear in these three particulars : first, in the envy he used to express that he bare towards Achilles in this,¹⁵ that he had so good a trumpet of his praises as Homer's verses ; secondly, in the judgment or solution he gave touching that precious cabinet of Darius, which was found among his jewels, whereof question was made what thing was worthy to be put into it, and he gave his opinion for Homer's works ; thirdly, in his letter to Aristotle,²⁰ after he had set forth his books of nature, wherein he expostulateth with him for publishing the secrets or mysteries of philosophy, and gave him to understand that himself esteemed it more to excel other men in learning²⁵ and knowledge than in power and empire. And what use he had of learning doth appear, or rather shine, in all his speeches and answers, being full of science and use of science, and that in all variety.

And herein again it may seem a thing scholastical, and³⁰ somewhat idle, to recite things that every man knoweth ; but yet since the argument I handle leadeth me thereunto, I am glad that men shall perceive I am as willing to flatter, if they will so call it, an Alexander, or a Cæsar, or an Antoninus, that are dead many hundred years since,³⁵

as any that now liveth ; for it is the displaying of the glory of learning in sovereignty that I propound to myself, and not an humor of declaiming in any man's praises. Observe then the speech he used of Diogenes, and see if
 5 it tend not to the true state of one of the greatest questions of moral philosophy, — whether the enjoying of outward things, or the contemning of them, be the greatest happiness. For when he saw Diogenes so perfectly contented with so little, he said to those that mocked at his
 10 condition, 'Were I not Alexander, I would wish to be Diogenes.' But Seneca inverteth it and saith : *There were more things that the latter would not accept than the former could give.*¹ There were more things which Diogenes would have refused, than those were which Alexander
 15 could have given or enjoyed.

Observe again that speech which was usual with him, 'That he felt his mortality chiefly in two things, sleep and lust,' and see if it were not a speech extracted out of the depth of natural philosophy, and liker to have
 20 comen out of the mouth of Aristotle or Democritus than from Alexander.

See again that speech of humanity and poesy, when upon the bleeding of his wounds he called unto him one of his flatterers, that was wont to ascribe to him divine
 25 honor, and said, 'Look, this is very blood ; this is not such a liquor as Homer speaketh of, which ran from Venus' hand when it was pierced by Diomedes.'

See likewise his readiness in reprehension of logic, in the speech he used to Cassander, upon a complaint that
 30 was made against his father Antipater. For when Alexander happed to say, 'Do you think these men would have come from so far to complain, except they had just cause of grief?' and Cassander answered, 'Yea, that was

¹ *Plus erat quod hic nollet accipere, quam quod ille posset dare.*

the matter, because they thought they should not be disproved ;' said Alexander laughing : ' See the subtilties of Aristotle, to take a matter both ways, *for and against*,'¹ etc.

But note again how well he could use the same art 5 which he reprehended, to serve his own humor, when bearing a secret grudge to Callisthenes because he was against the new ceremony of his adoration. Feasting one night where the same Callisthenes was at the table, it was moved by some after supper, for entertainment sake, 10 that Callisthenes, who was an eloquent man, might speak of some theme or purpose at his own choice ; which Callisthenes did, choosing the praise of the Macedonian nation for his discourse, and performing the same with so good manner as the hearers were much ravished ; 15 whereupon Alexander, nothing pleased, said, ' It was easy to be eloquent upon so good a subject.' ' But,' saith he, ' turn your style, and let us hear what you can say against us ;' which Callisthenes presently undertook, and did with that sting and life, that Alexander interrupted him, 20 and said, ' The goodness of the cause made him eloquent before, and despite made him eloquent then again.'

Consider further, for tropes of rhetoric, that excellent use of a metaphor or translation, wherewith he taxed Antipater, who was an imperious and tyrannous governor. 25 For when one of Antipater's friends commended him to Alexander for his moderation, that he did not degenerate, as his other lieutenants did, into the Persian pride in use of purple, but kept the ancient habit of Macedon, of black : ' True,' saith Alexander, ' but Antipater is all pur- 30 ple within.' Or that other when Parmenio came to him in the plain of Arbela, and showed him the innumerable multitude of his enemies, specially as they appeared by

¹ *Pro et contra.*

the infinite number of lights, as it had been a new firmament of stars, and thereupon advised him to assail them by night; whereupon he answered 'That he would not steal the victory.'

- 5 For matter of policy, weigh that significant distinction, so much in all ages embraced, that he made between his two friends Hephæstion and Craterus, when he said, 'That the one loved Alexander, and the other loved the king;' describing the principal difference of princes' best
10 servants, that some in affection love their person, and others in duty love their crown.

Weigh also that excellent taxation of an error ordinary with counsellors of princes, that they counsel their masters according to the model of their own mind and fortune,
15 and not of their masters; when, upon Darius' great offers, Parmenio had said, 'Surely I would accept these offers, were I as Alexander;' saith Alexander, 'So would I, were I as Parmenio.'

Lastly, weigh that quick and acute reply which he made
20 when he gave so large gifts to his friends and servants, and was asked what he did reserve for himself, and he answered, 'Hope;' weigh, I say, whether he had not cast up his account aright, because 'hope' must be the portion of all that resolve upon great enterprises. For this
25 was Cæsar's portion when he went first into Gaul, his estate being then utterly overthrown with largesses. And this was likewise the portion of that noble prince, howsoever transported with ambition, Henry Duke of Guise, of whom it was usually said that he was the greatest usurer
30 in France, because he had turned all his estate into obligations.

To conclude, therefore. As certain critics are used to say hyperbolically 'That if all sciences were lost, they might be found in Virgil,' so certainly this may be said
35 truly, there are the prints and footsteps of learning in those

few speeches which are reported of this prince ; the admiration of whom, when I consider him not as Alexander the Great, but as Aristotle's scholar, hath carried me too far.

As for Julius Cæsar, the excellency of his learning needeth not to be argued from his education, or his company, 5 or his speeches, but in a further degree doth declare itself in his writings and works ; whereof some are extant and permanent, and some unfortunately perished. For first, we see there is left unto us that excellent history of his own wars, which he entitled only a Commentary, wherein 10 all succeeding times have admired the solid weight of matter, and the real passages and lively images of actions and persons, expressed in the greatest propriety of words and perspicuity of narration that ever was. Which that it was not the effect of a natural gift, but of learning and 15 precept, is well witnessed by that work of his entitled 'De Analogia,' being a grammatical philosophy, wherein he did labor to make this same *speech according to the pleasure of the speaker*¹ to become *speech according to propriety and rule*,² and to reduce custom of speech to 20 congruity of speech ; and took, as it were, the picture of words from the life of reason.

So we receive from him, as a monument both of his power and learning, the then reformed computation of the year ; well expressing that he took it to be as great a 25 glory to himself to observe and know the law of the heavens, as to give law to men upon the earth.

So likewise in that book of his, 'Anti-Cato,' it may easily appear that he did aspire as well to victory of wit as victory of war ; undertaking therein a conflict against the 30 greatest champion with the pen that then lived, Cicero the orator.

So again in his book of 'Apothegms,' which he col-

¹ *Vox ad placitum.*

² *Vox ad licitum.*

lected, we see that he esteemed it more honor to make himself but a pair of tables to take the wise and pithy words of others, than to have every word of his own to be made an apothegm or an oracle, as vain princes, by
 5 custom of flattery, pretend to do. And yet if I should enumerate divers of his speeches, as I did those of Alexander, they are truly such as Solomon noteth, when he saith, '*The words of the wise are as goads, and as nails deeply fastened in*;' ¹ whereof I will only recite three, not
 10 so delectable for elegancy, but admirable for vigor and efficacy.

As first, it is reason he be thought a master of words, that could with one word appease a mutiny in his army; which was thus. The Romans, when their generals did
 15 speak to their army, did use the word '*Milites*' [soldiers] but when the magistrates spake to the people, they did use the word '*Quirites*' [citizens]. The soldiers were in tumult, and seditiously prayed to be cashiered, not that they so meant, but by expostulation thereof to draw
 20 Cæsar to other conditions; wherein he being resolute not to give way, after some silence he began his speech, *I, citizens*,² which did admit them already cashiered; where-with they were so surprised, crossed, and confused, as they would not suffer him to go on in his speech, but
 25 relinquished their demands, and made it their suit to be again called by the name of *Soldiers*.³

The second speech was thus. Cæsar did extremely affect the name of king; and some were set on, as he passed by, in popular acclamation to salute him king;
 30 whereupon finding the cry weak and poor, he put it off thus, in a kind of jest, as if they had mistaken his surname: *I am not King, but Cæsar*;⁴ a speech, that if it be

¹ *Verba sapientum tanquam aculei, et tanquam clavi in altum defici.* ² *Ego, Quirites.* ³ *Milites.* ⁴ *Non Rex sum, sed Cæsar.*

searched, the life and fulness of it can scarce be expressed. For first, it was a refusal of the name, but yet not serious ; again, it did signify an infinite confidence and magnanimity, as if he presumed Cæsar was the greater title, as by his worthiness it is come to pass till this day. But chiefly 5 it was a speech of great allurements towards his own purpose, as if the state did strive with him but for a name whereof mean families were vested, — for Rex was a surname with the Romans as well as King is with us.

The last speech which I will mention was used to 10 Metellus, when Cæsar, after war declared, did possess himself of the city of Rome ; at which time entering into the inner treasury to take the money there accumulate, Metellus, being tribune, forbade him ; whereto Cæsar said, 'That if he did not desist, he would lay him dead in 15 the place.' And presently taking himself up, he added, 'Young man, it is harder for me to speak it than to do it' ('Adolescens, durius est mihi hoc dicere quam facere') ; — a speech compounded of the greatest terror and greatest clemency that could proceed out of the mouth of 20 man.

But to return, and conclude with him. It is evident himself knew well his own perfection in learning, and took it upon him ; as appeared when, upon occasion that some spake what a strange resolution it was in Lucius Sylla to 25 resign his dictatorship, he, scoffing at him to his own advantage, answered, 'That Sylla could not skill of letters, and therefore knew not how to dictate.'

And here it were fit to leave this point touching the concurrence of military virtue and learning (for what example 30 would come with any grace after those two of Alexander and Cæsar?), were it not in regard of the rareness of circumstance that I find in one other particular, as that which did so suddenly pass from extreme scorn to extreme wonder ; and it is of Xenophon the philosopher, who went 35

from Socrates' school into Asia, in the expedition of Cyrus the younger against King Artaxerxes. This Xenophon at that time was very young, and never had seen the wars before ; neither had any command in the army, 5 but only followed the war as a voluntary, for the love and conversation of Proxenus his friend. He was present when Falinus came in message from the great king to the Grecians, after that Cyrus was slain in the field, and they a handful of men left to themselves in the midst of 10 the king's territories, cut off from their country by many navigable rivers and many hundred miles. The message imported that they should deliver up their arms, and submit themselves to the king's mercy. To which message before answer was made, divers of the army conferred 15 familiarly with Falinus, and amongst the rest Xenophon happened to say, 'Why, Falinus, we have now but these two things left, our arms and our virtue ; and if we yield up our arms, how shall we make use of our virtue ?' Whereto Falinus, smiling on him, said, 'If I be not 20 deceived, young gentleman, you are an Athenian, and I believe you study philosophy, and it is pretty that you say ; but you are much abused if you think your virtue can withstand the king's power.' Here was the scorn. The wonder followed ; which was that this young scholar 25 or philosopher, after all the captains were murdered in parley by treason, conducted those ten thousand foot through the heart of all the king's high countries from Babylon to Grecia in safety, in despite of all the king's forces, to the astonishment of the world, and the encouragement 30 of the Grecians in time succeeding to make invasion upon the kings of Persia ; as was after purposed by Jason the Thessalian, attempted by Agesilaus the Spartan, and achieved by Alexander the Macedonian, all upon the ground of the act of that young scholar. 35 To proceed now from imperial and military virtue to

moral and private virtue. First, it is an assured truth which is contained in the verses :

*'Tis learning's boon, the gift of liberal art,
To soften manners, and refine the heart.¹*

[*To have thoroughly studied the liberal arts, softens the 5
manners, and suffers them not to be brutal.*] It taketh away the wildness and barbarism and fierceness of men's minds ; but indeed the accent had need be upon 'fideliter' [*thoroughly*], for a little superficial learning doth rather work a contrary effect. It taketh away all levity, temerity, 10 and insolency, by copious suggestion of all doubts and difficulties, and acquainting the mind to balance reasons on both sides, and to turn back the first offers and conceits of the mind, and to accept of nothing but examined and tried. It taketh away vain admiration of anything, 15 which is the root of all weakness. For all things are admired, either because they are new, or because they are great. For novelty, no man that wadeth in learning or contemplation thoroughly, but will find that printed in his heart, *There is nothing new on the earth.*² 20 Neither can any man marvel at the play of puppets, that goeth behind the curtain and adviseth well of the motion. And for magnitude, as Alexander the Great, after that he was used to great armies and the great conquests of the spacious provinces in Asia, when he received letters 25 out of Greece of some fights and services there, which were commonly for a passage, or a fort, or some walled town at the most, he said, 'It seemed to him that he was advertised of the battles of the frogs and the mice, that the old tales went of.' So certainly, if a man medi- 30

¹ *Scilicet ingenuas didicisse fideliter artes,
Emollit mores, nec sinit esse feros.*

² *Nil novi super terram.*

tate much upon the universal frame of nature, the earth with men upon it — the divineness of souls except — will not seem much other than an ant-hill, whereas some ants carry corn, and some carry their young, and some go
 5 empty, and all to and fro a little heap of dust. It taketh away or mitigateth fear of death or adverse fortune, which is one of the greatest impediments of virtue and imperfections of manners. For if a man's mind be deeply seasoned with the consideration of the mortality and
 10 corruptible nature of things, he will easily concur with Epictetus, who went forth one day and saw a woman weeping for her pitcher of earth that was broken, and went forth the next day, and saw a woman weeping for her son that was dead ; and thereupon said, *Yesterday I saw a*
 15 *brittle thing broken, to-day a mortal dead.*¹ And therefore did Virgil excellently and profoundly couple the knowledge of causes and the conquest of all fears together, as *concomitants.*²

20 *Happy the man who doth the causes know
 Of all that is ; serene he stands, above
 All fears ; above the inexorable Fate,
 And that insatiate gulf that roars below.*³

It were too long to go over the particular remedies which learning doth minister to all the diseases of the
 25 mind, sometimes purging the ill humors, sometimes opening the obstructions, sometimes helping digestion, sometimes increasing appetite, sometimes healing the wounds and exulcerations thereof, and the like ; and therefore I will conclude with that which hath *the sum of the whole mat-*

¹ *Hæc vidi fragilem frangi, hodie vidi mortalem mori.*

² *Concomitantia.*

³ *Felix qui potuit rerum cognoscere causas,
 Quique metus omnes, et inexorabile fatum
 Subjecit pedibus, strepitumque Acherontis avari.*

ter,¹ which is that it disposeth the constitution of the mind not to be fixed or settled in the defects thereof, but still to be capable and susceptible of growth and reformation. For the unlearned man knows not what it is to descend into himself, or to call himself to account, nor the pleasure of that *happiest of experiences, to feel oneself each day a better man than he was the day before.*² The good parts he hath he will learn to show to the full, and use them dexterously, but not much to increase them; the faults he hath, he will learn how to hide and color them, but not much to amend them,—like an ill mower, that mows on still, and never whets his scythe. Whereas with the learned man it fares otherwise, that he doth ever intermix the correction and amendment of his mind with the use and employment thereof. Nay further, in general and in sum, certain it is that *truth*³ and *goodness*⁴ differ but as the seal and the print; for truth prints goodness, and they be the clouds of error which descend in the storms of passions and perturbations.

From moral virtue let us pass on to matter of power and commandment, and consider whether in right reason there be any comparable with that wherewith knowledge investeth and crowneth man's nature. We see the dignity of the commandment is according to the dignity of the commanded. To have commandment over beasts, as herdsmen have, is a thing contemptible; to have commandment over children, as schoolmasters have, is a matter of small honor; to have commandment over galley-slaves is a disparagement rather than an honor. Neither is the commandment of tyrants much better, over people which have put off the generosity of their

¹ *Rationem totius.*

² *Suavissima vita, indies sentire se fieri meliorem.*

³ *Veritas.*

⁴ *Bonitas.*

minds ; and therefore it was ever holden that honors in free monarchiès and commonwealths had a sweetness more than in tyrannies, because the commandment extendeth more over the wills of men, and not only over
 5 their deeds and services. And therefore when Virgil putteth himself forth to attribute to Augustus Cæsar the best of human honors, he doth it in these words :

*Moving in conquest onward, at his will
 To willing peoples he gives laws, and shapes
 10 Through worthiest deeds on earth his course to Heaven.*¹

But yet the commandment of knowledge is yet higher than the commandment over the will ; for it is a commandment over the reason, belief, and understanding of man, which is the highest part of the mind, and giveth
 15 law to the will itself. For there is no power on earth which setteth up a throne or chair of estate in the spirits and souls of men, and in their cogitations, imaginations, opinions, and beliefs, but knowledge and learning. And therefore we see the detestable and extreme pleasure that
 20 arch-heretics and false prophets and impostors are transported with, when they once find in themselves that they have a superiority in the faith and conscience of men ; so great, that if they have once tasted of it, it is seldom seen that any torture or persecution can make them relinquish
 25 or abandon it. But as this is that which the author of the Revelation calleth the depth or profoundness of Satan, so, by argument of contraries, the just and lawful sovereignty over men's understanding, by force of truth rightly interpreted, is that which approacheth nearest to the similitude
 30 of the divine rule.

As for fortune and advancement, the beneficence of learning is not so confined to give fortune only to states

¹ *Victorque volentes
 Per populos dat jura, viamque affectat Olympo.*

and commonwealths, as it doth not likewise give fortune to particular persons. For it was well noted long ago that Homer hath given more men their livings than either Sylla, or Cæsar, or Augustus ever did, notwithstanding their great largesses and donatives and distributions of lands to so many legions. And no doubt it is hard to say whether arms or learning have advanced greater numbers. And in case of sovranty, we see that that if arms or descent have carried away the kingdom, yet learning hath carried the priesthood, which ever hath 10 been in some competition with empire.

Again, for the pleasure and delight of knowledge and learning, it far surpasseth all other in nature. For shall the pleasures of the affections so exceed the pleasures of the senses, as much as the obtaining of desire or victory 15 exceedeth a song or a dinner; and must not, of consequence, the pleasures of the intellect or understanding exceed the pleasures of the affections? We see in all other pleasures there is satiety, and after they be used their verdure departeth; which sheweth well they be but 20 deceits of pleasure, and not pleasures, and that it was the novelty which pleased, and not the quality. And therefore we see that voluptuous men turn friars, and ambitious princes turn melancholy. But of knowledge there is no satiety, but satisfaction and appetite are perpetually 25 interchangeable; and therefore appeareth to be good in itself simply, without fallacy or accident. Neither is that pleasure of small efficacy and contentment to the mind of man, which the poet Lucretius describeth elegantly:

*Pleasant to gaze below, when winds disturb the deep,*¹ 30

‘It is a view of delight,’ saith he, ‘to stand or walk upon the shore side, and to see a ship tossed with tem-

¹ *Suave mari magno, turbantibus æquora ventis, etc.*

pest upon the sea ; or to be in a fortified tower, and to see two battles join upon a plain. But it is a pleasure incomparable, for the mind of man to be settled, landed, and fortified in the certainty of truth, and from thence to
5 descry and behold the errors, perturbations, labors, and wanderings up and down of other men.'

Lastly, leaving the vulgar arguments that by learning man excelleth man in that wherein man excelleth beasts, that by learning man ascendeth to the heavens and their
10 motions, where in body he cannot come, and the like ; let us conclude with the dignity and excellency of knowledge and learning in that whereunto man's nature doth most aspire, which is immortality or continuance — for to this tendeth generation, and raising of houses and families ;
15 to this tend buildings, foundations, and monuments ; to this tendeth the desire of memory, fame, and celebration, and in effect the strength of all other human desires. We see then how far the monuments of wit and learning are more durable than the monuments of power or of the
20 hands. For have not the verses of Homer continued twenty-five hundred years or more without the loss of a syllable or letter, during which time infinite palaces, temples, castles, cities, have been decayed and demolished ? It is not possible to have the true pictures or statuaes of
25 Cyrus, Alexander, Cæsar, no, nor of the kings or great personages of much later years ; for the originals cannot last, and the copies cannot but leese of the life and truth. But the images of men's wits and knowledges remain in books, exempted from the wrong of time, and capable of
30 perpetual renovation. Neither are they fitly to be called images, because they generate still, and cast their seeds in the minds of others, provoking and causing infinite actions and opinions in succeeding ages. So that if the invention of the ship was thought so noble, which
35 carrieth riches and commodities from place to place, and

consociateth the most remote regions in participation of their fruits, how much more are letters to be magnified, which as ships pass through the vast seas of time, and make ages so distant to participate of the wisdom, illuminations, and inventions, the one of the other? Nay 5 further, we see some of the philosophers which were least divine and most immersed in the senses, and denied generally the immortality of the soul, yet came to this point, that whatsoever motions the spirit of man could act and perform without the organs of the body, they thought 10 might remain after death, — which were only those of the understanding, and not of the affection ; so immortal and incorruptible a thing did knowledge seem unto them to be. But we, that know by divine revelation that not only the understanding, but the affections purified, not only 15 the spirit, but the body changed, shall be advanced to immortality, do disclaim in these rudiments of the senses. But it must be remembered both in this last point, and so it may likewise be needful in other places, that in probation of the dignity of knowledge or learning I did in 20 the beginning separate divine testimony from human ; which method I have pursued, and so handled them both apart.

Nevertheless I do not pretend, and I know it will be impossible for me by any pleading of mine, to reverse 25 the judgment, either of Æsop's cock, that preferred the barley-corn before the gem ; or of Midas, that being chosen judge between Apollo, president of the Muses, and Pan, god of the flocks, judged for plenty ; or of Paris, that judged for beauty and love against wisdom 30 and power ; or of Agrippina, *Let him kill his mother so he be emperor*,¹ — that preferred empire with any condition never so detestable ; or of Ulysses, *who preferred an old*

¹ *Occidat matrem, modo imperet.*

woman to immortality,¹ being a figure of those which prefer custom and habit before all excellency ; or of a number of the like popular judgments. For these things must continue as they have been ; but so will that also
5 continue whereupon learning hath ever relied, and which faileth not : *Wisdom is justified of her children*.²

¹ *Justificata est Sapientia a filiis suis.*

² *Qui vetulam prætulit immortalitati.*

NOTES.

To the King. James I of England and VI of Scotland (1566-1625), son of Lord Darnley and Mary Queen of Scots, who succeeded Queen Elizabeth in 1603. 'The reign of James in England was distinguished by many memorable events: it witnessed the literary and political careers of Bacon and Raleigh, the disgrace of both, and execution of the latter; the dramatic activity of Shakespeare and Ben Jonson; the translation of the English Bible; the colonization of Virginia and New England; the formation of two well-defined schools of English Protestantism; and the genesis of the struggle between King and Commons which brought the head of his successor to the block. James was despicable in his personal qualities: was weak, cowardly, passionate, vindictive, cruel, superstitious, fanatical, and prone to fall under the influence of worthless favorites. Though absurdly lacking in kingly qualities, he thoroughly believed in his divine right to rule, setting forth his views on that subject in *Basilikon Doron* (1599). His learning was varied, though not scholarly; he published several other books, which were much praised by his flatterers, but have now only a historical interest' (*Johnson's Cyclopædia*). His flatterers called him the British Solomon. An instructive parallel to Bacon's dedication is that of the translators of the English Bible, which is usually prefixed to the Authorized Version. The current conceptions of James I are largely derived from Scott's *Fortunes of Nigel*. Cf. Green, *Short History of the English People*, Chap. 8, sect. 2.

We must remember that the *Advancement of Learning* was published two years after James' accession to the English throne. Macaulay says, in his essay on Bacon: 'James mounted the throne; and Bacon employed all his address to obtain for himself a share of the favor of his new master. This was no difficult task. The faults of James, both as a man and as a prince, were numerous;

but insensibility to the claims of genius and learning was not among them. He was indeed made up of two men — a witty, well-read scholar, who wrote, disputed, and harangued, and a nervous, driveling idiot, who acted. . . . Under the reign of James, Bacon grew rapidly in fortune and favor. In 1604 he was appointed King's Counsel, with a fee of forty pounds a year; and a pension of sixty pounds a year was settled upon him. In 1607 he became Solicitor-General, in 1612 Attorney-General.'

1 1. *Law*. Mosaic Law.

1 2. *Freewill offerings*. Cf. Lev. 23, 37, 38. *Proceeding upon*. Resulting from.

1 3. *Ordinary observance*. Prescribed form of worship. *Cheerfulness*. Eagerness, alacrity. Cf. 'Not grudgingly, or of necessity; for God loveth a cheerful giver' (2 Cor. 9. 7).

1 4. *There belongeth to kings*. In his letter to King James, written in the year of his accession, Bacon says: 'I think there is no subject of Your Majesty's who loveth this island, and is not hollow and unworthy, whose heart is not set on fire, not only to bring you peace-offerings to make you propitious, but to sacrifice himself a burnt offering to Your Majesty's service; amongst which number no man's fire shall be more pure and fervent than mine.'

1 5. Cf. note on 62 7. *Presents*. Pledges, tokens.

1 8. *Your Majesty's employments*. A gentle hint.

1 9. *Respective*. Appropriate.

1 10. *Propriety*. Peculiarity. Cf. Lat. *proprius*.

1 15. *Scripture*. Prov. 25. 3. Selby quotes Bacon's essay *Of Empire*: 'It is a miserable state of mind to have few things to desire and many things to fear. And yet that commonly is the case of kings: who, being at the highest, want matter of desire, which makes their minds more languishing, and have many representations of perils and shadows, which makes their minds the less clear. And this is one reason also of that effect which the Scripture speaketh of: *that the king's heart is inscrutable*. For multitude of jealousies, and lack of some predominant desire that should marshal and put in order all the rest, maketh any man's heart hard to find or sound.'

1 18. *Virtue and fortune*. Cf. 4 2.

1 19 ff. Abbott says (*Francis Bacon*, p. 103): 'It is this excess of hopefulness — this determination not only to make the best, but to see the best, of everything — which explains, more adequately than

any hypothesis of deliberate flattery, the language of adulation in which he addressed the King in the earlier years of his reign. Perhaps Bacon never, to the last, thoroughly realized the inherent weakness of James' character; perhaps he found it impracticable to discontinue the habit once formed, and perceived that flattery was necessary in approaching a sovran who mistook deference for devotion. Be the cause what it may, he never tendered counsel to the King without disguising it in obsequiousness.'

24. *Plato's opinion.* Cf. Cicero, *Tusc. Disp.* i. 24. 57: 'If desires and aversions were all that belonged to the soul, it would have them only in common with the beasts; but it has, in the first place, memory, and that, too, so infinite as to recollect an absolutely countless number of circumstances, which Plato will have to be a recollection of a former life; for in that book which is inscribed *Meno*, Socrates asks a child some questions in geometry, with reference to measuring a square; his answers are such as a child would make, and yet the questions are so easy that while answering them one by one he comes to the same point as if he had learned geometry. From whence Socrates would infer that learning is nothing more than recollection; and this topic he explains more accurately in the discourse which he held the very day he died; for he there asserts that any one, who, seeming to be entirely illiterate, is yet able to answer a question well that is proposed to him, does in so doing manifestly show that he is not learning it then, but recollecting it by his memory. Nor is it to be accounted for in any other way, how children come to have notions of so many and such important things as are implanted, and, as it were, sealed up in their minds, unless the soul, before it entered the body, had been well stored with knowledge.' See also Plato, *Meno* 81: 'The soul, then, as being immortal, and having been born again many times, and having seen all things that there are, whether in this world or in the world below, has knowledge of them all; and it is no wonder that she should be able to call to remembrance all that she ever knew about virtue, and about everything; for as all nature is akin, and the soul has learned all things, there is no difficulty in her eliciting, or as men say learning, all out of a single recollection, if a man is strenuous and does not faint; for all inquiry and all learning is but recollection.' And cf. Plato, *Phaedo* 72 ff., and Wordsworth, *Intimations of Immortality*.

27. Ed. 1605 has 'motions.'

- 2 8. *Tabernacle*. Cf. 2 Cor. 5. 4. *Sequestered*. Hidden, obscured.
- 2 13. *Scripture*. 1 Kings 4. 29.
- 2 14. *It*. Bacon seems to be thinking of Lat. *arena*, a collective noun.
- 2 15. *Which . . . bodies*. The Latin translation has 'cujus quanquam massa praegrandis.' *It*. Not demanded by the construction.
- 2 17. *Composition*. Constitution. *Admirable*. Limits 'composition.'
- 2 18. *Comprehend*. Notice the antithesis with 'apprehend.'
- 2 20. *Should*. Used for 'would.'
- 2 23. *Tacitus*. *Annals* 13. 3, slightly modified.
- 2 25. *Speech that is uttered*, etc. All prose style should be tried by this standard.
- 2 29. *Holding of*. Smacking of, pertaining to. *The subject*. As being unfree, servile, not 'prince-like.' 'Subject' does not here mean 'theme of discourse.' The Latin translation has 'nescio quid servile olet.'
- 2 30 ff. A beautiful description of fine style.
- 3 2. *Virtue with your fortune*. Contrasting that which is in one's power with that which is not. So at the beginning of Bacon's *Queen Elizabeth*: 'Both nature and fortune conspired to render Queen Elizabeth the ambition of her sex and an ornament to crowned heads.' See the humorous discourse of Celia and Rosalind, *As You Like It* 1. 2. 34 ff.
- 3 3. *Regiment*. Education.
- 3 4. *Greater fortune*. Succession to the English crown.
- 3 5. *Possession*. Attainment.
- 3 6. *Observation*. Observance.
- 3 7. *Blessed and happy fruit*. What proved to be the character of Charles I? What became of James' other children?
- 3 8. *Peace*. In the sequel he maintained peace only by allying himself with the Catholic powers. The translators' dedication (see above, *To the King*) speaks of 'peace and tranquility at home and abroad.'
- 3 14. *Amplification*. Exaggeration.
- 3 18. *Peruse*. Review.
- 3 19. *Emperors of Rome*. Cf. 53 27 ff. *Cesar*. Cf. 63 4 ff.
- 3 21. *Marcus Antoninus*. Cf. 57 3 ff.
- 3 22. *Grecia*. In the fourth century A.D. the Roman Empire was

divided, and the Eastern Empire, Bacon's 'Grecia,' was ruled from Constantinople.

3 25. *Compendious extractions.* Explain.

3 28. *Prefer.* Promote.

3 30. *Fountain.* Cf. 2 31.

3 34. *Profane.* Secular. *As.* That.

3 35. *Of.* With. *Triplicity.* Threefold glory.

4 1. *Hermes.* 'Hermes Trismegistus, fabled to be an Egyptian priest, philosopher, and king. The author of the works ascribed to him was probably a Neoplatonist of the second or third century' (Wright). Cf. Milton, *Il Penseroso* 88.

4 2. *Illumination.* Spiritual enlightenment, divine inspiration.

4 3. *Universality.* Cf. note on 40 3.

4 7. *Solid work.* Cf. Bacon, trans. of his *Epistle Dedicatory* (*Works* 4. 12): 'Lastly, I have a request to make, a request no way unworthy of Your Majesty, and which especially concerns the work in hand: namely, that you who resemble Solomon in so many things—in the gravity of your judgments, in the peacefulness of your reign, in the largeness of your heart, in the noble variety of the books which you have composed—would further follow his example in taking order for the collecting and perfecting of a Natural and Experimental History, true and severe (unencumbered with literature and book-learning), such as philosophy may be built upon—such, in fact, as I shall in its proper place describe; that so at length, after the lapse of so many ages, philosophy and the sciences may no longer float in air, but rest on the solid foundation of experience of every kind, and the same well examined and weighed. I have provided the machine, but the stuff must be gathered from the facts of nature.'

4 8. *Character.* Stamp. What does the Greek original mean?

4 9. *Difference.* Distinguishing mark; here, superiority.

4 12. *Oblation.* Present.

4 20. *Undervalues.* Shortcomings.

4 23. *Visit.* Inspect.

4 25. *For this purpose.* The Latin translation has 'to extend the bounds of arts and sciences.' *Magnanimity.* Etymology?

4 27. *The former.* Cf. 1. 14. The Latin characterizes this as the easier of the two undertakings, but yet on no account to be neglected.

4 33. *Severally disguised.* In various disguises.

4 34. *Divines*. Theologians.

5 1. *Politics*. Politicians, statesmen.

5 3. *Is of*. Is one of.

5 4. *Of*. Superfluous.

5 9. *Knowledge puffeth up*. 1 Cor. 8. 1.

5 10. *Censure*. Opinion. Eccl. 12. 12.

5 12. *Another place*. Eccl. 1. 18.

5 13. *Contristation*. Grief.

5 15. *Caveat*. Caution. Col. 2. 8. Cf. Macaulay, *Essay on Bacon*: 'Scarcely any text was more frequently cited by the reformers than that in which St. Paul cautions the Colossians not to let any man spoil them by philosophy. Luther, almost at the onset of his career, went so far as to declare that no man could be at once a proficient in the school of Aristotle and in that of Christ. Zwingle, Bucer, Peter Martyr, Calvin, held similar language.'

5 17. *How learned times*, etc. In *Essay 16* Bacon enumerates among the causes of atheism 'learned times, specially with peace and prosperity; for troubles and adversities do more bow men's minds to religion.'

5 18. *Second*. Secondary, physical. Cf. 9 15 ff.

5 21. *Discover*. Show.

5 25. *Man did give names*. Gen. 2. 19, 20. Ellis says: 'This reference to the imposition of names in Paradise in illustration of natural knowledge, is common in the writings of the schoolmen,' and refers to Thomas Aquinas.

5 28. *It was the proud*, etc. Cf. 45 30 ff., and Bacon's treatise *Of the Interpretation of Nature* (*Works* 3. 219, ed. Spedding and Ellis): 'For behold it was not that pure light of natural knowledge, whereby man in Paradise was able to give unto every living creature a name according to his propriety, which gave occasion to the Fall; but it was an aspiring desire to attain to that part of moral knowledge which defineth of good and evil, whereby to dispute God's commandments and not to depend upon the revelation of his will, which was the original temptation' (Wright). Bacon illustrates the thought of this passage more fully in his *Confession of Faith* (*Works* 7. 222), where, speaking of the Fall of Man, he lays it down 'That man made a total defection from God, presuming to imagine that the commandments and prohibitions of God were not the rules of good and evil, but that good and evil had their own principles and beginnings; and lusted after the knowledge of those

imagined beginnings, to the end to depend no more upon God's will revealed, but upon himself and his own light as a God, than the which there could not be a sin more opposite to the whole law of God; that yet nevertheless this great sin was not originally moved by the malice of man, but was insinuated by the suggestion and instigation of the devil, who was the first defected creature, and fell of malice and not by temptation.'

5 29. *Good and evil.* Cf. Gen. 2. 16; 3. 5.

6 1. *Extend.* Distend.

6 3. *Inquisition.* Inquiry, investigation.

6 4. *Affirmeth.* Eccl. 1. 8.

6 6. *Continent.* Container.

6 11. *God hath made,* etc. Eccl. 3. 11.

6 12. *Decent.* Becoming.

6 17. *Capable of.* Able to receive.

6 20. *Vicissitude of times.* Change of seasons. *Raised.* Lifted up.

6 21. *Ordinances and decrees.* Changeless laws.

6 23. *Summary.* Chief.

6 28. *Ill conjunction.* Imperfect coöperation.

6 29. *Tradition.* Transmission; communication.

6 31. *Nothing parcel.* No part.

6 33. *Rule over.* Decide, rule (as a judge). *The spirit of,* etc.

Prov. 20. 27, freely rendered.

7 1. *Receipt.* Comprehensiveness.

7 4. *Out-compass itself.* Exceed its proper limits.

7 7. *Nature.* Kind.

7 8. *Ventosity.* Tumidity, puffiness.

7 9. *Souvan.* All-powerful, as in 'sovran remedy.'

7 11. *Knowledge,* etc. 1 Cor. 8. 1.

7 13. *If I spake,* etc. 1 Cor. 13. 1.

7 19. *Sounding.* Cf. 'sounding brass.' *Glory.* Vainglory, pre-tentiousness.

7 21 ff. *The excess,* etc. Cf. 5 10 ff.

7 24. *Places.* Passages.

7 28. *Coarctation.* Restriction.

7 30. *Three.* Cf. 5 7-20.

7 31. *As.* That; a frequent use.

7 33. *Distaste.* Disgust. What is the meaning of 'gust'?

7 34. *That we do not presume,* etc. Dante would agree with this, and with all Bacon's counsels here. Cf. Scartazzini, *Companion to*

Dante, tr. Butler, pp. 214-5: 'There is a well-known remark of Goethe's to the effect that "the secret of the world's history is contained in the fight between Christianity and human wisdom." But, since the world's history is older than Christianity, the great man must have meant dogmatic religion generally. This has from all time been in conflict, not merely with human wisdom, but with human reason. It does not even concern itself with matters of which reason takes cognizance, but with emotion and its needs. Its efforts are directed to showing the course of the world in another and fairer shape than that in which they will appear to the natural eye of the observer. The lofty visions begotten of the heart's yearning presages it proclaims as a higher view of things, and makes weal and woe depend upon a man's acceptance of them as realities, or recognition of them for what they really are. For the most part it expressly requires man to abstain from logically thinking out his conclusions, and expects him to yield his reason a submissive prisoner to faith. The absurd must be received in childlike simplicity as indubitably the higher truth, as expressed in the famous phrase, *Credo quia impossibile*. . . . Faith and knowledge, religion and science, can never dwell side by side in peace. In science, on the one hand, is innate the impulse to destroy all illusions, poetical, comforting, beautiful though they be; on the other, faith will never submit to be a result of a more or less amiable fancy, but claims to be, not merely knowledge, but the highest knowledge, to which all others must be subordinate and subject. Conflicts are thus unavoidable.' He then (p. 228) quotes Witte, *Dante-Forschungen* I. 14-15: 'Seduced long ago from his childlike Christian faith by the pride of unfettered speculation, Dante sees the way of truth transformed to him by the evil passions whose antitheses are the three virtues which we call exclusively Christian. . . . Then God's grace kindles the beam of religion again in his breast; he sees how fruitless, how sinful even, were the researches of the over-bold reason into matters which to it must remain ever unfathomable. He regrets ever having given in to the error of assigning too great importance to the transitory interests of earth, and the old faith, the old love towards his glorified Beatrice awakens in new fulness. On the day on which the Saviour redeemed mankind upon the cross, in the year when the Church was seeking by means of the Jubilee to bring Christians to heaven on a new road, then did Dante also receive the inward assurance of redemption. But his

newly awakened faith is no longer the almost unconscious faith of a joyous childlike spirit, it is the result of year-long wanderings and doubts, now impenetrably armed against outward storms and inward waverings, and firmly fixed on a basis of deep scientific thought. As his love for the living Beatrice was once inseparably conjoined with the faith which looks up in gratitude to God, she now in her heavenly exaltation becomes a bright symbol of theology, the enlightened and enlightening queen of the sciences' [the last sentence has been more closely conformed to the original].

8 2. *In another place.* Eccl. 2. 13, 14.

8 3. *Recedeth . . . from.* Surpasses.

8 6. *Roundeth.* Wanders.

8 8. *Vexation.* Cf. 5 12, 7 32.

8 11. *Wonder (which is the seed of knowledge).* So Plato, *Theætetus* 155: 'Wonder is the feeling of a philosopher, and philosophy begins in wonder.'

8 14. *Particular.* Individual case.

8 15. *Carefulness.* Worry.

8 17. *Heraclitus.* Cf. Plutarch, *Romulus* 35-6: 'In the language of Heraclitus, the dry soul is the best, darting from the body like a flash of lightning from a cloud; but the soul that is carnal and immersed in sense, like a heavy and dank vapor, with difficulty is kindled and aspires.' Again, *Cessation of Oracles (Morals* 4. 51): 'Furthermore, a man may say that dryness, being mixed with heat, attenuateth and subtilizeth the spirit, and makes it pure and of an ethereal nature and consistence; for the soul itself, according to Heraclitus, is of a dry constitution; whereas moisture does not only dim the sight and dull the hearing, but when mingled with the air and touching the superficies of mirrors, dusketh the brightness of the one and takes away the light of the other.' And again, *Eating of Flesh (Morals* 5. 9): 'For it is well known to most that wine and much flesh-eating make the body indeed strong and lusty, but the mind weak and feeble. And that I may not offend the wrestlers, I will make use of examples out of my own country. The Athenians are wont to call us Bœotians gross, senseless, and stupid fellows, for no other reason but our over-much eating; and Pindar calls us also hogs, for the same reason. . . . It is observed also that, according to the saying of Heraclitus, "the wisest soul is like a dry light." . . . When we behold the sun through a humid air and a great quantity of gross and indigested vapors, we see it not clear

and bright, but obscure and cloudy, and with glimmering beams. Just so in a muddy and clogged body, that is swagged down with heavy and unnatural nourishments, it must needs happen that the gayety and splendor of the mind be confused and dulled, and that it ramble and roll after little and scarce discernible objects, since it wants clearness and vigor for higher things.' Also *On Listening to Poets*. Cf. Shak., *Merch. Ven.* 1. 63-65; Milton, *Comus* 465-475.

Bacon is fond of this saying; thus, for example, *Wisdom of the Ancients*, *Icarus*: 'It was excellently said by Heraclitus, "A dry light makes the best soul"; for if the soul contracts moisture from the earth, it perfectly degenerates and sinks. On the other hand, moderation must be observed, to prevent this fine light from burning, by its too great subtilty and dryness.' Again, *Essay 26*: 'Heraclitus saith well in one of his enigmas, *Dry light is ever the best*: and certain it is that the light that a man receiveth by counsel from another is drier and purer than that which cometh from his own understanding and judgment, which is ever infused and drenched in his affections and customs.' Bacon further explains in his *Novum Organum* 1. 49 (*Works*, 1. 167): 'The mind of man is not like a dry light, but it receives from the will and affections a taint which produces capricious or arbitrary sciences; for what a man wishes to be true, that he is inclined to believe to be true.'

8 21. *Stood. Dwelt.*

8 25. *Vain philosophy.* Cf. 5 15.

8 29. *Broken.* Incomplete.

8 30. *One of Plato's school.* 'Philo Judæus, who was born at Alexandria about B.C. 20. He aimed at harmonizing the principles of the Greek philosophy of religion with the text of the Mosaic writings' (Selby). The reference is to his *De Somniis* 577 E.

9 6. *Heretical.* So in the *Novum Organum*, Bk. 1, aph. 65 (*Works*, 1. 175), he says: 'An ill-advised mixture of things human and divine produces a fantastical philosophy and a heretical religion.' In *Essay 17* he assigns among the causes of superstition 'the taking an aim at divine matters by human, which cannot but breed mixture of imaginations.'

9 7. *Waxen wings.* Cf. Bacon's *Wisdom of the Ancients*, *Icarus*: 'Icarus, being to fly across the sea, was ordered by his father neither to soar too high nor fly too low, for, as his wings were fastened together with wax, there was danger of its melting by the sun's heat in too high a flight, and of its becoming less tenacious by the

moisture if he kept too near the vapor of the sea. But he, with a juvenile confidence, soared aloft, and fell down headlong.' This is from Ovid, *Met.* 8. 195 ff.

9 8. *Conceit.* Idea.

9 11. *First Cause.* Cf. 5 20.

9 12. *The question.* Job 13. 7.

9 14. *Worketh nothing.* The Latin translation adds 'ordinarily,' the exception relating to miracles.

9 19. *A little,* etc. Cf. *Essay* 16: 'It is true that a little philosophy inclineth man's mind to atheism, but depth in philosophy bringeth men's minds about to religion; for while the mind of man looketh upon second causes scattered, it may sometimes rest in them and go no further, but when it beholdeth the chain of them confederate and linked together, it must needs fly to Providence and Deity.'

9 29. *Highest link,* etc. Homer, *Iliad* 8. 18-27: 'Go to now, ye gods, make trial that ye all may know. Fasten ye a rope of gold from heaven, and all ye gods lay hold thereof and all goddesses; yet could ye not drag from heaven to earth Zeus, counselor supreme, not though ye toiled sore. But once I likewise were minded to draw with all my heart, then should I draw you up with very earth and sea withal. Thereafter would I bind the rope about a pinnacle of Olympus, and so should all those things be hung in air. By so much am I beyond gods and beyond men.' Burton has (*Anat. of Melancholy*, Memb. 2, subsect. 1): 'And this is that Homer's golden chain which reacheth down from heaven to earth, by which every creature is annexed and depends on his Creator.' Add Plato, *Theatetus* 153 D; Spenser, *F. Q.* 1. 5. 25; Ben Jonson, *Epode*; Browne, *Religio Medici*, § 18; Tennyson, *Morte d'Arthur* 255.

10 1. *Endeavor.* Seek.

10 3. *To charity,* etc. Cf. 7 30 ff. *Swelling.* Inflation, arrogance, overweeningness. Cf. 2 Cor. 12. 20; 2 Pet. 2. 18; Jude 16.

10 6. *And as for,* etc. Cf. 5 1.

10 7. *Politics.* The old spelling was 'politiques'; not to be confused with the word in its modern sense. *Be.* An old form of the ind. plur.

10 7. *Learning doth soften.* Answered 11 15 ff.

10 9. *Mar and pervert.* Answered 12 9 ff.

10 11. *Curious.* Scrupulous. Answered 14 9 ff.

10 12. *Peremptory.* Answered 14 13 ff.

10 13. *Immoderate*, etc. Answered 14 17 ff.

10 14. *Incompatible*. Not suited to the times in which they live. 'It is said that learned men will aim presumptuously at equaling the greatness of the most celebrated men of whom they have read in history, or that they will simply attempt to imitate the past, forgetting that what is possible in one age is impossible in another. In reply to this Bacon says that only ignorant men will regard every historical personage as a model to be imitated, and every historical event as a precedent to be followed' (Selby).

10 16. *Travails*. Labors.

10 18. *Leisure and privateness*. Answered 14 35 ff. *Privateness*. Privacy.

10 19. *Relaxation of discipline*. Answered 16 19 ff.

10 21. *Cato*. This was in 155 B.C. The story is told by Plutarch,

Cato 22. Bacon uses it to illustrate the last point, 10 18 ff. See the comment in 16 33 ff.

10 33. We should omit the second 'between.'

10 34. *The verses*. *Æn.* 6. 847-853 (Dryden's tr.):

Let others better mold the running mass
Of metals, and inform the breathing brass,
And soften into flesh a marble face;
Plead better at the bar; describe the skies,
And when the stars descend and when they rise.
But Rome, 't is thine alone, with awful sway
To rule mankind and make the world obey,
Disposing peace and war thy own majestic way.
To tame the proud, the fettered slave to free—
These are imperial arts, and worthy thee.

This reference to Virgil appears meant as an illustration of l. 7 ff., rather than of the last charge brought against learning. For the answer, see 17 6 ff.

10 35. *Challenging*. Claiming.

11 5. *Accusation*. Cf. Plato, *Apology* 23-24: 'This confounded Socrates, they say; this villainous misleader of youth!—and then if somebody asks them, "Why, what evil does he practise or teach?" they do not know, and cannot tell; but in order that they may not appear to be at a loss, they repeat the ready-made charges which are used against all philosophers, about teaching things up in the clouds and under the earth, and having no gods, and making the worse appear the better cause; for they do not like to confess that

their pretence of knowledge has been detected — which is the truth. . . . I turn to the second class, who are headed by Meletus, that good and patriotic man, as he calls himself. And now I will try to defend myself against them; these new accusers must also have their affidavit read. What do they say? Something of this sort: — “That Socrates is a doer of evil, and a corrupter of the youth; he does not believe in the gods of the state, and has other new divinities of his own.”’ This continues the illustration of 10 18 ff.

11 9. *The worse matter seem the better.* See last note, and Aristophanes, *Clouds* 114; Diogenes Laertius, *Socrates* 5; cf. Milton, *P. L.* 2. 112.

11 12. *Countenance.* Appearance.

11 15. *Meeting and concurrence.* Cf. *Essay* 58: ‘In the youth of a state arms do flourish; in the middle age of a state, learning; and then both of them together for a time; and in the declining age of a state, mechanical arts and merchandise.’ Cf. 12 2 ff. Where do we in America now stand?

11 18. *The like.* So good an. *Alexander the Great.* Cf. 59 1 ff.

11 19. *Aristotle’s scholar.* Cf. 59 8, 63 3.

11 20. *Cicero’s rival in eloquence.* Tacitus, *Ann.* 13. 3: ‘The dictator Cæsar rivaled the greatest orators.’ But especially Quintilian 10. 1. 114: ‘As for Julius Cæsar, if he had devoted himself wholly to the forum, no other of our countrymen would have been named as a rival to Cicero. There is in him such force, such perspicuity, such fire, that he evidently spoke with the same spirit with which he fought. All these qualities, too, he sets off with a remarkable elegance of diction, of which he was peculiarly studious.’ Bacon, in his sketch of Cæsar, remarks: ‘His eloquence was natural to him, and pure.’ Plutarch says: ‘Cæsar is said to have had happy talents from nature for a public speaker, and he did not want an ambition to cultivate them, so that undoubtedly he was the second orator in Rome; and he might have been the first, had he not rather chosen the pre-eminence in arms. . . . Hence it was that afterwards, in his *Anti-Cato*, which he wrote in answer to a book of Cicero’s, he desired his readers “not to expect in the performance of a military man the style of a complete orator, who had bestowed all his time upon such studies.”’ Cf. 63 4 ff.

11 23. *Epaminondas.* The most celebrated general of Thebes. He defeated the Spartans at the battle of Leuctra, July 6, 371 B.C., which was fatal to the supremacy of Sparta. In this action he

displayed great military genius, and owed his success partly to his novel manœuvres and combinations. . . . He left a pure and exalted reputation as a patriot, statesman, and sage, and is universally admitted to have been one of the greatest captains of antiquity. Cicero expressed the opinion that Epaminondas was the greatest man that Greece produced. Up to his fortieth year he passed his time in retirement and study, and exhibited great diligence in acquiring the culture of his age.

11 24. *Xenophon*. Cf. 65 35 ff.

11 25. *Abated*. Humbled.

11 26. *Made way*. Cf. 66 29 ff.

11 28. *A greater*. The 'a' from the edition of 1640.

11 30. *Rome*. Cf. 17 9 ff.

12 3. *Strength of the body and mind*. According to Aristotle (*Rhet.* 2. 14. 4), the body is strongest from thirty to thirty-five, the mind at forty-nine.

12 4. *An*. One.

12 10. *Hurt than enable*. Unfit than qualify.

12 12. *Empiric physicians*. Such as draw their rules of practice entirely from experience, to the exclusion of philosophical theory; hence, quacks. Cf. *Essay 12*: 'So are there mountebanks for the politic body—men that undertake great cures and perhaps have been lucky in two or three experiments, but want the grounds of science, and therefore cannot hold out.'

12 13. *Pleasing*. To themselves. *Receipts*. Prescriptions.

12 15. *Complexions*. Constitutions. *Accidents*. Unfavorable symptoms.

12 19. *Falleth out besides*. Occurs outside of.

12 23. *Men grounded in learning*. This, if intended as a compliment to King James, was not wholly applicable. Selby quotes from Lingard, *History of England*, 7. 139: 'James, though an able man, was a weak monarch. His quickness of apprehension and soundness of judgment were marred by his credulity and partialities, his childish fears and habit of vacillation. Eminently qualified to advise as a counselor, he wanted the spirit and resolution to act as a sovrän. His discourse teemed with maxims of political wisdom; his conduct frequently bore the impress of political imbecility.'

12 27. *Ordinary*. Customary. *Extenuate*. Depreciate.

12 28. *Disable*. Disparage.

12 29. *Particulars*. Instances.

12 31. *Infinite disadvantage.* Cf. Eccl. 10. 16; Isa. 3. 4; 2 Chron. 13. 7; Shak. *Rich. III.* 2. 3. 11.

12 33. *Traduce.* Decry.

13 1. *Magnified.* Extolled.

13 2. *In the hands of Seneca.* Cf. Tacitus, *Annals* 13. 2: 'And now they had proceeded to further murders but for the opposition of Afranius Burrus and Annæus Seneca. These two men guided the emperor's youth with a unity of purpose seldom found where authority is shared, and, though their accomplishments were wholly different, they had equal influence. Burrus, with his soldier's discipline and severe manners, Seneca, with lessons of eloquence and a dignified courtesy, strove alike to confine the frailty of the prince's youth, should he loathe virtue, within allowable indulgence. They had both alike to struggle against the domineering spirit of Agrippina, who, inflamed with all the passions of an evil ascendancy, had Pallas on her side.' *Pedant.* 'From the It. *pedante*, which appears not to have been quite naturalized' (Wright). The old editions here have *pedanti*.

13 4. *Gordianus.* He ascended the imperial throne in A.D. 238, when he was about fourteen years of age. Gibbon says (*Decline and Fall*, chap. 7): 'Immediately after his accession he fell into the hands of his mother's eunuchs, that pernicious vermin of the East, who, since the days of Elagabalus, had infested the Roman palace. By the artful conspiracy of these wretches an impenetrable veil was drawn between an innocent prince and his oppressed subjects, the virtuous disposition of Gordian was deceived, and the honors of the empire sold without his knowledge, though in a very public manner, to the most worthless of mankind. We are ignorant by what fortunate accident the emperor escaped from this ignominious slavery, and devolved his confidence on a minister whose wise counsels had no object except the glory of the sovereign and the happiness of the people. It should seem that love and learning introduced Misi-theus to the favor of Gordian. The young prince married the daughter of his master of rhetoric, and promoted his father-in-law to the first offices of the empire. Two admirable letters that passed between them are still extant. . . . The life of Misi-theus had been spent in the profession of letters, not of arms; yet such was the versatile genius of that great man that, when he was appointed prætorian prefect, he discharged the military duties of his place with vigor and ability.'

13 5. *Contentation*. Satisfaction. *Misitheus*. Properly, Time-sitheus.

13 6. *Alexander Severus*. 'In the room of Elagabalus, his cousin Alexander was raised to the throne by the prætorian guards [probably in March, 222]. . . . But, as Alexander was a modest and dutiful youth of only seventeen years of age, the reins of government were in the hands of two women, of his mother Mamæa, and of Mæsa, his grandmother. After the death of the latter, who survived but a short time the elevation of Alexander, Mamæa remained the sole regent of her son and of the empire. . . . With the approbation of the senate, she chose sixteen of the wisest and most virtuous senators as a perpetual council of state, before whom every public business of moment was debated and determined. The celebrated Ulpian, equally distinguished by his knowledge of, and his respect for, the laws of Rome, was at their head; and the prudent firmness of this aristocracy restored order and authority to the government. As soon as they had purged the city from foreign superstition and luxury, the remains of the capricious tyranny of Elagabalus, they applied themselves to remove his worthless creatures from every department of public administration, and to supply their places with men of virtue and ability. Learning and the love of justice became the only recommendations for civil offices, valor and the love of discipline the only qualifications for military employments. But the most important care of Mamæa and her wise counselors was to form the character of the young emperor, on whose personal qualities the happiness or misery of the Roman world must ultimately depend. . . . An excellent understanding soon convinced Alexander of the advantages of virtue, the pleasure of knowledge, and the necessity of labor. . . . His unalterable regard for his mother, and his esteem for the wise Ulpian, guarded his unexperienced youth from the poison of flattery' (Gibbon, chap. 6).

13 8. *Teachers and preceptors*. These seem scarcely the terms by which to characterize the members of his council of state.

13 10. *Bishops of Rome*. Popes. *As by name*. For instance.

13 11. *Pius Quintus and Sextus Quintus*. 'Pius the Fifth was a Dominican, Sixtus the Fifth a Franciscan friar. Pius was Pope from 1565-1572. The most remarkable event of his pontificate was the defeat of the Turks in the battle of Lepanto, in which his fleet was engaged in conjunction with those of Venice and Spain.

Sixtus was Pope from 1585-1590. His vigorous, though cruel, administration is described by Gibbon, ch. 70' (Selby). Sixtus V was the founder of the Vatican library. Of him the *Encyclopædia Britannica* says: 'Ardent, despotic, indefatigable, he did everything by himself, rarely invited advice and still more rarely followed it, and manifested in all his actions a capacious and highly original genius, in most respects eminently practical, but swayed in some things towards the visionary and fantastic by the inevitable effects of a monastic training. His first great aim was to purge the papal dominions of the robbers who had overrun them under the weak administration of his predecessor. This salutary undertaking was effectually accomplished. . . . Sixtus V left the reputation . . . of a great sovereign in an age of great sovereigns, of a man always aiming at the highest things, and whose great faults were but the exaggeration of great virtues.' Cf. Ranke, *History of the Popes*, Chaps. 3 and 4.

13 13. The Latin tr. has 'ignorant of affairs.'

13 15. *Estate*. State.

13 18. *To seek*. Deficient, wanting.

13 19. *Reasons of state*. Political considerations. Have we any examples in the conduct of our own affairs?

13 21. *Inventions against religion*. 'Catena, *Vita di Pio V*, p. 31 (ed. 1586), reports a saying of the Pope, something to this effect, with reference to the maxim of Louis XI of France, "Chi non sà simulare non sà regnare" [He who knows not how to dissimulate knows not how to reign]. See also Gabutius, *Vita Pii V*, lib. vi. c. 7 (*Acta Sanctorum*, 5 Maii, ed. 1866), and lib. ii. c. 3' (Wright).

13 22. *Recompense*. Compensate for.

13 25. *Use*. Need.

13 30. *Resembleth*, etc. Known now to science as 'atavism.'

13 32. *Sort*. Agree.

13 33. *Immediate*. Present.

14 1. *Countervail*. Outweigh.

14 2. *Hold way*. Keep pace. Selby compares a sentence from Burke: 'We are afraid to put men to live and trade each on his own private stock of reason, because we suspect that this stock in each man is small, and that the individuals would do better to avail themselves of the general bank and capital of nations and of ages.'

14 3. *Those particular seducements*. Bacon has been arguing from analogy (12 11-24) and appealing to history (12 24-13 27),

alleging the insufficiency of personal experience (13 27-33), and contrasting the resources of the individual with the accumulated riches of humanity (13 33-14 2). He now recurs to the specifications of 10 11 ff.

14 7. *Ministereth*. Provides. *Every*. Each.

14 10. *Irresolute*. Cf. 10 11. *By plain precept*. It has well-recognized principles and grounds of judgment.

14 12. *Resolve*. Decide.

14 13. *Prejudice*. Harm, perhaps also with some notion of a tendency to prejudgment.

14 14. *Positive and regular*. The Latin, *pertinaces et difficiles*, suggests the stubbornness of the confirmed idealist. Bacon's answer is, in effect, that a truly learned man will be pertinacious only when he is sure of the principle involved, and has duly taken account of circumstances which may modify its application.

14 17. *Latitude*. Extent to which they apply. *Disproportion or dissimilitude*. Cf. 10 13 ff.

14 19. *The errors of comparisons*. Probably the false conclusions to which one may be led in assuming that a given historical condition is exactly reproduced in one's own time.

14 24. *Examples*. Such as Bacon has already made use of. It might be well to collect the instances where his argument is really nothing but an appeal to history. *Clement the Seventh*. One of the Medici, nephew of Lorenzo the Magnificent and cousin of Pope Leo X, Pope from 1523-1534. During his pontificate occurred the sack of Rome by the Constable Bourbon (1527). The student of English history remembers his refusal to sanction the divorce of Henry VIII from Catherine of Aragon, a refusal due wholly to his fear of offending the Emperor Charles V. 'His administration affords a proof that at eventful crises of the world's history mediocrity of character is more disastrous than mediocrity of talent.'

14 25. *Lively*. Vividly. *Guicciardine*. Properly, Guicciardini (1482-1541). His *History of Italy* (1561-4) has been called 'the greatest historical work that had appeared since the beginning of the modern era,' and 'the most solid monument of the Italian reason in the sixteenth century.' Ellis quotes from his account of Clement VII: 'Both in deliberation and in the execution of what he had deliberated about, every fresh little consideration which might occur to him, every trifling impediment which he might encounter,

seemed enough to make him fall back into the same state of confusion in which he had been before he began to deliberate.'

14 26. *Errors of Cicero*. Selby quotes Mommsen's *History of Rome* 4. 641: 'As a statesman without insight, opinion, or purpose, he figured successively as democrat, as aristocrat, and as a tool of the monarchs, and was never more than a short-sighted egotist.'

14 27. *Epistles*. Especially, as Ellis notes, Bk. 16, ep. 7. *Atticus*. A wealthy and cultivated Roman, friend of Cicero, Cæsar, Pompey, Brutus, Cassius, and Mark Antony (B.C. 109-32).

14 28. *Irresolute*. See l. 10.

14 29. *Phocion* (B.C. 402-317), an Athenian general, the unrelenting adversary of Demosthenes. After devoting his life to their service, he was put to death by the Athenians, who afterwards, repenting of their conduct, buried his remains at the public expense, and erected a bronze statue in his honor. According to Plutarch, he was a good man fallen on evil days, and the account given of him scarcely justifies Bacon's expression. Thus Plutarch says of Cato and Phocion: 'Their severity of manner was equally tempered with humanity, and their valor with caution; they had the same solicitude for others and disregard for themselves; the same abhorrence of everything base and dishonorable, and the same firm attachment to justice on all occasions.' Of Phocion he adds: 'He was one of the most humane and best tempered men in the world, and yet he had so ill-natured and forbidding a look that strangers were afraid to address him without company. . . . He never exerted himself against any man in his private capacity, or considered him an enemy, but he was inflexibly severe against every man who opposed his motions and designs for the public good.' Among numerous anecdotes, Plutarch relates that on one occasion in a public debate, when his opinion happened to be received with universal applause, he turned to his friends and said: 'What have I said amiss?' Bacon includes this among his Apothegms. Plutarch concludes: 'The proceedings against Phocion put the Greeks in mind of those against Socrates. The treatment of both was equally unjust, and the calamities thence entailed upon Athens were perfectly similar.'

14 30. *Obstinate*. See l. 14.

14 31. *Ixion*. For the story, cf. Pindar, *Pyth.* 2. 40-89. In the Second Book of the *Advancement of Learning*, Bacon says, speaking of natural magic, corresponding in some sense to astrology,

alchemy, etc.: 'Of this kind of learning the fable of Ixion was a figure, who designed to enjoy Juno, the goddess of power, and instead of her had copulation with a cloud, of which mixture were begotten centaurs and chimeras. So whoever shall entertain high and vaporous imaginations shall beget hopes and beliefs of strange and impossible shapes.' *Vaporous*. Boastful.

14 32. *Cato the Second*. To be distinguished from Cato the Censor. The latter died B.C. 149, the former, his great-grandson, B.C. 46. Cato the Younger, often known as Cato of Utica, from the place of his death in Africa, looked upon his great ancestor as a model, adopted his principles and imitated his conduct, though differing widely from him in disposition and natural gifts. He was brought up as a devoted adherent of the Stoic School, and became conspicuous for his rigorous morality. On the outbreak of the civil war in B.C. 49 he sided with Pompey; after the battles of Pharsalia and Thapsus, when all Africa, with the exception of Utica, submitted to Cæsar, he resolved to die rather than fall into his hands; he therefore put an end to his own life, after spending the greater part of the night in reading Plato's *Phædo* on the immortality of the soul. He has been glorified by Lucan in his *Pharsalia*, and by Addison in his *Cato*. To Virgil (*Æn.* 8. 670) he is a lawgiver among the righteous dead in Elysium; to Dante he is the representative of liberty, and as such made the warden of Purgatory (*Purg.* 2), besides being mentioned with reverence in the *De Monarchia* and *Convito*. His life has been related by Plutarch.

14 33. *Antipodes*. Persons, not a place. It would have been well for Bacon if he had sometimes trodden 'opposite to the present world,' and vastly better for his fame. With relation to his disgrace, compare what is said of Cato the Younger: 'He was an uncompromising opponent of corruption, and inflexible in his adherence to what he considered the right and the patriotic policy. As a candidate for the consulship he was defeated, because he declined to gain votes by bribery and other means which were customary, but not strictly lawful.' Cf. 22 10 ff.

15 1. *Leisure and privateness*. Cf. 10 18.

15 2. *A strange thing*. Indeed a strange thing. Was Cicero slothful? or Dante? or Shakespeare? or Milton? or Burke? or Dr. Johnson? or Franklin? or Jowett? or Gladstone?

15 9. *Wear*. Wear out.

15 11. *Pleasure and displeasure*. The Latin has: 'They have

for their object either the applause of others or some inward gratification of their own' (Ellis).

15 17. *Are in*, etc. Ellis comments: 'Gives them opportunities of rewarding their friends and punishing their enemies.'

15 22. *The purchase*. That which is acquired by it.

15 27. *Seneca*. In *Ep.* 1. 3, quoting from Pomponius. The first clause is rather: *Quidam adeo in latebras refugerunt*.

15 30. *Of (learning)*. Parallel with 'from,' l. 26.

16 5. *Tedious*. Dilatory.

16 10. *Well answered*. Plutarch, *Life of Demosthenes* 8. 2.

16 11. *Æschines*. A mistake for 'Pytheas,' as Ellis points out; Selby seems not to suspect this.

16 15. *Doubt*. Fear. *Expulse*. Expel.

16 20. *Undermine*. Cf. 10 19. *Of*. For.

16 21. *Depravation*. Slander. *All*. Any.

16 27. *Maniable*. Manageable.

16 29. *Thwart*. Perverse.

16 30. *Clear*. Prove.

16 34. *Blasphemy*. Aspersion.

17 2. *To learn the Greek tongue*. Cicero makes him say (*On Old Age* 8. 26): 'We see Solon in his verses boasting, who says that he was becoming an old man, daily learning something new; as I have done, who, when an old man, learned the Greek language; which, too, I so readily grasped as if I were desirous of satisfying a long protracted thirst.' Ellis refers to *Acad. Quest.* 2. 2. Sidney notes this in his *Defense of Poesy* (my edition 40. 19-21): 'He misliked and cried out upon all Greek learning; and yet, being fourscore years old, began to learn it, belike fearing that Pluto understood not Latin.'

17 6. *Virgil's verses*. See note on 10 34.

17 12. *Two first Cæsars*. Julius and Augustus.

17 16. *Or second*. When Demosthenes would be first.

17 17. *Socrates*. Cf. 11 4 ff.

17 19. *Thirty Tyrants*. 'After the retirement of the Spartans from Athens, B.C. 404, the government of the city was for a short time in the hands of a Committee of Thirty. Bacon is mistaken here. It is true that Socrates was summoned before the Thirty and reprimanded. But his trial and death took place under the restored democracy' (Selby). 'Attached to none of the prevailing parties, Socrates found in each of them his friends and his enemies. Hated

and persecuted by Critias, Charicles, and others among the Thirty Tyrants, who had a special reference to him in the decree which they issued, forbidding the teaching of the art of oratory, he was impeached after their banishment and by their opponents. . . . It had been made a matter of accusation against him that Critias, the most ruthless of the Tyrants, had come forth from his school. . . . There can be little doubt that use was made of his friendly relations with Theramenes, one of the most influential of the Thirty, . . . in order to irritate against him the party which at that time was dominant' (*Dict. Gr. and Rom. Biog.*).

17 20. *Envious*. Malicious.

17 23. *Accumulate*. Loaded.

17 29. *Humorous*. Capricious.

17 31. *Redargution*. Refutation.

18 1. *Castor and Pollux*. Otherwise known as the Dioscuri, or Twin Brethren. According to Homer, they were brothers of Helen. After death they were, according to one version, placed in heaven as the constellation of the Twins. The ancients revered them as mighty helpers of men, and especially of travelers by sea. As one of the Homeric Hymns has it: 'These . . . she [Leda] bore . . . to be the saviors of earthly men, and of swift ships when the wintry breezes rush along the pitiless sea. Them men from their ships call in prayer with sacrifice of white lambs when they mount the vessel's deck. But the strong wind and the wave of the sea drive down their ship beneath the water; when suddenly appear the sons of Zeus rushing through the air with tawny wings, and straightway have they stilled tempests of evil winds, and have lulled the waves in the gulfs of the white salt sea. Glad signs are they to mariners, an ending of their labor; and men see it and are glad, and cease from weary toil.' *Shining stars*. Horace, *Od.* 1. 3. 2.

18 2. *Influence*. An astrological term; cf. Job 38. 31 (A. V.).

18 4. *Third sort*. Cf. 5 1.

18 11. *In hand with*. Dealing with.

18 21. *Common place*. Topic. *Friar*. The Latin translation has 'mendicant friars'; Bacon may well have had the Franciscans in mind.

18 22. *Machiavel*. Machiavelli (1469-1527), a famous Florentine statesman and writer. The passage is from his *Discourses on Livy* (3. 1), a work out of which grew his still more famous *Prince*.

18 28. *Delicacy*. Voluptuousness.

- 18 30. *Civility*. Refinement.
- 18 32. *Reverent*. Reverend.
- 18 33. *In the Roman state*. One may think of Cincinnatus (dictator B.C. 458, and again 439) and Fabricius (consul B.C. 282 and 278). Both are commemorated by Livy; both are honored by Dante in his *Treatise on Monarchy* 2. 5.
- 19 1. *Titus Livius*. The historian Livy.
- 19 11. *Summary*. Important.
- 19 12. *But these*, etc. From the first epistle to Cæsar *On the Ordering of the State (De Republica Ordinanda)*, ascribed by some critics to Sallust.
- 19 16. *A blush*, etc. Attributed by Diogenes Laertius (6. 54) to Diogenes the Cynic.
- 19 17. *Come*. Account for the form.
- 19 20. *Solomon*. Here, as elsewhere, the original texts have *Salomon*.
- 19 21. *He that*, etc. Prov. 28. 20.
- 19 22. *Buy the truth*, etc. Prov. 23. 23.
- 19 25. *Privateness*. Cf. 18 16.
- 20 2. *Not taxed with*. The Latin has: 'modo absint desidia et luxus.'
- 20 3. *Civil*. Public.
- 20 6. *Conceits*. Conceptions.
- 20 7. *Allowing*. Approving.
- 20 11. *Tacitus. Annals* 3. 76, freely quoted. Church and Brodribb, in their version, render: 'But Cassius and Brutus outshone them all, from the very fact that their likenesses were not to be seen'; Spedding renders: 'They had the preëminence over all — in being left out.'
- 20 13. *Meanness of employment*. Cf. 18 16.
- 20 14. *Traduced*. Held up.
- 20 16. *It*. Redundant.
- 20 20. *Measure of reason*. Cf. 18 10 ff.
- 20 21. *Curious*. Particular.
- 20 23. *Corroborate*. Grown strong.
- 20 25. *Use*. Are accustomed. *Applications*. Appliances.
- 20 26. *Rabbins*. Rabbis. In *Essay 42* it reads, 'A certain Rabbin.' The one referred to, according to Reynolds, in his edition of the *Essays* (who has it from Dr. Ginsburg) is Abravanel, writing in 1520. Ellis cites Tychsen, as quoted in Rosenmüller's *Schol. in*

Vet. Test. ad loc.: 'Notanda autem hic orationis concinnitas, et poetæ in jungendis verbis delectus, quod senibus somnia tribuat, quæ debiliori ætati magis conveniunt, juvenibus visiones utpote vividioribus ingeniis ad concipienda phantasmata promptioribus.' [Note the brevity of phrase, and the poet's skill in putting words together, as shown by his assigning dreams to old men, as agreeing better with their feebler age, and giving visions to young men, because of their livelier minds and greater promptitude in conceiving imaginations.] *Your young men*, etc. Joel 2. 28.

20 28. *Say they.* *Essay 42* has: 'Young men are admitted nearer to God than old, because vision is a clearer revelation than a dream.' Abravanel has: 'Because the strength of the old men is diminished, their sight is dim, therefore they shall dream; and the young men, because they are full of vigor and their powers of sight stronger, therefore they shall see visions.' Evidently Bacon has no sufficient authority for his statement.

20 30. *Howsoever*, etc. 'Comp. Florio's *Montaigne*, p. 60, ed. 1603: "I have in my youth oftentimes bene vexed to see a Pedant brought in, in most of Italian Comedies, for a vice or sportemaker"' (Wright).

21 5. *Jesuits*. 'For an account of their services in the cause of education, see Buckle's *History of Civilization* 2. 336; and Green's *History of the English People* 2. 262' (Selby).

21 6. *Although*, etc. Such passages were omitted in the Latin translation, which was intended to be read in Catholic as well as Protestant countries. The motive for the omission, as Mr. Spedding notes, is explained by Bacon himself in the letter which he sent to the King along with the *De Augmentis*: 'I have been also mine own *Index Expurgatorius*, that it may be read in all places. For since my end of putting it into Latin was to have it read everywhere, it had been an absurd contradiction to free it in the language and to pen it up in the matter.'

21 7. *The better*, etc. According to Diogenes Laertius (6. 46), a saying of Diogenes the Cynic, addressed to a youth who played at the game of cottabos in a bathroom.

21 9. *Agésilau*s. King of Sparta from 398 to 361 B.C., during most of which time he was, according to Plutarch, as good as thought commander and king of all Greece. He was Sparta's most perfect citizen and most consummate general, in many ways perhaps her greatest man.

21 10. *Pharnabazus*. Satrap of the Persian provinces near the Hellespont. *Being what you are*, etc. Related by Plutarch; the occasion was an interview held B.C. 395.

21 13. *Manners*. Cf. 18 7.

21 15. *Temperatures*. Dispositions.

21 16. *Studies*, etc. Ovid, *Ep.* 15. 83.

21 17. *Studies have an influence*, etc. The Latin has: 'And literature, unless it enters into a mind which is much depraved, corrects the natural disposition and changes it for the better.' Selby compares Newman, *Idea of a University*, Discourse 8, sect. 4.

21 20. *Indifferent*. Impartial.

21 22. *Not inherent*. The construction seems at fault. We should consider 'not' as redundant unless we explain with Spedding, 'Not, [I mean, from such manners as are] inherent,' etc. The idea is that no disgrace can attach to learning from the manners (character) of learned men in so far as they are learned; the learning, while it may not have rid them of objectionable manners (character), has not been the cause of them.

21 24. *Cato the Second*. Cf. 14 32.

21 28. *Contend*. Strive.

21 29. *Reduce*. Bring back. The Latin translation has: 'They strive to impose upon a dissolute age the moral code of a rigid antiquity.'

21 32. *Solon*. Celebrated Athenian lawgiver, born about 638 B.C.; one of the Seven Wise Men of Greece.

22 1. *Yea, of such*, etc. Plutarch, *Solon* 15.

22 4. *That a man's country*, etc. Plato, *Ep.* 7, p. 331. Probably from Cicero, *Familiar Letters* 1. 9. 18, as Ellis notes.

22 6. *Contestations*. Wranglings.

22 7. *Cesar's counselor*. Cf. note on 19 12.

22 12. *Cato's intentions*, etc. *Letters to Atticus* 2. 1. 8.

22 14. *Plato's republic*. The ideal state sketched by Plato in his *Republic*; the first Utopia in literature.

22 18. *Prescripts*. Prescriptions. *Those tutors*, etc. *For Muræna* 31, slightly changed.

22 23. *I am myself*, etc. Ovid, *Art of Love* 2. 548.

22 26. *Another fault*. Cf. 21 23.

23 3. *If it please you*, etc. *On the Chersonesus*, p. 106.

23 9. *Quinquennium Neronis*. Five years of Nero's reign. The expression is from Aurelius Victor, *On the Casars* 5. 2. Cf. 13 1.

23 11. *Counsel*. The Latin adds, 'to his own great peril and subsequent ruin.'

23 14. *Casualty*. Uncertainty, inconstancy.

23 21. *Lo, I have gained for thee*. Matt. 25. 20.

23 22. *Whereas the corrupter sort*, etc. Cf. with this *Essay 23, Of Wisdom for a Man's Self*.

23 25. *Universality*. Define.

23 31. *Use*. Note on 20 25.

23 33. *Stand*. Remain safe.

24 3. *Tender*. Scrupulous.

24 7. *Allowance*. Approbation.

24 9. *Another fault*. Cf. 22 26.

24 11. *Applying*. Accommodating.

24 17. *We are*, etc. Ascribed to Epicurus by Seneca, *Epist.* 1.

7. 11. Cf. *Essay 10*: 'It was a poor saying of Epicurus, "*We are a sufficiently large theatre, one for another*"; as if man, made for the contemplation of heaven and all noble objects, should do nothing but kneel before a little idol.'

24 20. *Wanteth*. Lacks.

24 31. *Towards princes*. Cf. *Essay 20*: 'Counselors should not be too speculative into their sovran's person. The true composition of a counselor is rather to be skilful in their master's business than in his nature; for then he is like to advise him, and not to feed his humor.'

24 32. *For the custom*, etc. Ellis says: 'Bacon probably refers to the relation of some modern traveler. Even in Herodotus, however, we find a similar custom mentioned.' Cf. Herod. 1. 99.

25 5. Cf. note on 1 15.

25 6. *Yet another fault*. Cf. 24 9.

25 9. *Carriage*. Demeanor. In the Latin Bacon adds, 'For instance, in their looks, gestures, gait, daily conversation, and the like.'

25 13. *Consequence*. Inference.

25 14. *Themistocles*. General and statesman; one of the most ambitious of Athenians; born about B.C. 514. In a decisive crisis he was the savior of Greece by persuading the Athenians to build a fleet, and thus becoming victor over the Persians at Salamis.

25 18. *He could not fiddle*. Plutarch, *Themistocles 2*. Quoted again in *Essay 29*.

25 20. *Seen*. Versed.

- 25 21. *Punctual*. Petty.
- 25 22. *Plato said*. *Symposium* 215.
- 25 23. *The gallipots of apothecaries*. 'Alcibiades, in the *Symposium*, one of the dialogues of Plato, compares Socrates to the masks of the god Silenus, the faces of which were hideous; but when they were opened, images of the gods were found inside. Spedding supposes that Bacon was thinking of the following passage in the French humorist Rabelais: "Silenuses formerly were small boxes, such as we see at present in apothecaries' shops, with merry and grotesque figures painted on the top"' (Selby).
- 25 25. *Antiques*. The Latin has 'satyrs.'
- 25 26. *Confections*. Medicines.
- 26 2. *Lucian*. Satirist and humorist, born at Samosata on the Euphrates, about 125 A.D.
- 26 3. *Merry description*. In his *De Mercede Conductis*.
- 26 7. *Of*. From being.
- 26 8. *Cynic*. The word is derived from the Greek for 'dog'; it denoted a school of philosophers to which Diogenes belonged, as Seneca did to the Stoics.
- 26 10. *Du Bartas*. A French poet (1544-1590); the passage referred to is in *The First Week, Second Day*. Joshua Sylvester translated him into English, and he is supposed to have influenced Milton. Ellis notes that his writings were held in great esteem by King James, and that in the third book of the *Basilicon Doron* he is particularly recommended to Prince Henry's studies.
- 26 11. *Hecuba into Helena*, etc. 'Representing old and ugly women as young and beautiful, and vicious women as chaste' (Selby). *Faustina*. The immoral wife of the Emperor Marcus Aurelius; see note on 57 15.
- 26 12. *Lucretia*. Her story is related by Livy 1. 57 ff.
- 26 13. *Moral*. Customary. Ed. 1629 has 'moderne.' The Latin has: 'Morem illum receptum libros patronis nuncupandi.'
- 26 18. *Or if to kings*. Cf. Bacon's own dedication, and observe the flattery here.
- 26 19. *Argument*. Theme.
- 26 22. *Not that I can*, etc. To do so would have been to condemn himself. *Tax*. Censure. *Morigeration*. Obsequiousness.
- 26 24. *Diogenes*. Rather, Aristippus. Cf. Diogenes Laertius, *Aristip.* 2. 69.
- 26 30. *Aristippus*. The founder of the Cyrenaic school of

philosophy; born about 435 B.C. *Dionysius*. Tyrant of Syracuse from B.C. 405 to 367. The story is told by Diogenes Laertius, *Aristip.* 2. 79.

27 5. *Adrianus Caesar*. The Emperor Hadrian, who reigned A.D. 117 to 138. Cf. 55 14 ff. The incident is related of Favorinus by Spartianus, *Life of Hadrian* 15.

27 10. *Submissions to the occasion*. Here Bacon shows himself the sophist.

27 12. *Errors and vanities*. Cf. 18 7-10.

27 18. *Aspersio*. Reproach.

27 20. *Deprave*. Disparage. *The*. We should use *its*.

27 21. *Upon*. Of.

27 27. *Unto*. Concerning.

27 34. *Curious*. The Latin explains that this means either devoted to things of no moment, or overnice in matters of expression.

28 6 ff. Much abridged and modified in the Latin.

28 7. *In discourse*. By exercise. *Province*. Task.

28 25. *Schoolmen*. Philosophers of the Middle Ages. They have been greatly undervalued by most modern writers. See notes on 31 20 and 32 5.

28 27. *Taking liberty*, etc. As people now do constantly.

28 31. *Then*. The original ed. has 'that then.'

28 32. *This people*, etc. John 7. 49.

29 4. *These four causes*. The order is not the same as above.

29 7. *Affectionate*. Zealous. *Copie*. From Lat. *copia*, copiousness.

29 9. *Men began to hunt*, etc. A general fault at the present time. Cicero's orator is not to be thus one-sided (*Character of the Orator* 1. 34. 157): 'Your language must then be brought forth from this domestic and retired exercise into the midst of the field, into the dust and clamor, into the camp and military array of the forum; you must acquire practice in every thing; you must try the strength of your understanding; and your retired lucubrations must be exposed to the light of reality.'

29 17. *Osorius*. Bishop of Sylves in Algarve, b. 1506, d. 1580. One of his chief works was an account of the Portuguese discoveries and conquests in the reign of King Emanuel I (1495-1521). According to the *Encyclopædia Britannica*, this work entitles him to considerable literary rank, not only by pure

Latinity and artistic arrangement, but also by historical accuracy and insight, as well as by impartiality and elevation of tone. The *Retrospective Review* (1. 322) says: 'Osorius was a celebrated Portuguese bishop, in the time of the renowned Sebastian. He early cultivated a Latin style; and, from the purity to which he attained in his various compositions in that language, he gained the title of the Cicero of Portugal. The work by which he is best known is his historical book, *De Regibus Lusitaniæ*, which is not uncommon, and has been more than once reprinted. Among other Latin productions which procured him high reputation were his address to our Queen Elizabeth, *On the True Faith*, and his reply to Haddon, who answered it. Bacon observed that "his vein was weak and waterish"; he probably saw deeper than his contemporaries, who, taken by the charms of a pure and copious Latin style, were content with inoffensive commonplaces, which do certainly roll on with a majestic flow of language, not unworthy of the great Roman orator.' He also wrote a work *On Glory*, which so much delighted Cardinal Pole (1500-1558) that he requested a noble relative in England to translate it into the vulgar tongue, which was accordingly done. It was this work of which the philosopher D'Alembert is reported to have declared that it was really a production of Cicero's, palmed off by the modern as his own. The following quotation from it is taken from the *Retrospective Review*: 'There are many things, most invincible king, which have great virtue, either in rightly establishing the life of man, or in overthrowing it utterly; but there is nothing that is of such efficacy toward either of these ends as an ardent longing for commendation and renown. For, in the first place, it extends far and wide from God, that there is no one, how greatly soever endowed with refinement, or however rude and unpolished; however eminent by reason of honors, or however obscure and unknown; however ennobled by the ornaments of virtue, or however covered with disgraces manifold, who is not on fire with an immeasurable yearning for glory. Besides, it is so grounded in universal sentiments of mankind that it can neither be plucked forth by the force of reason, nor be changed by any law or custom, nor be curbed and restrained by any fear.' Ascham's *Scholemaster*, ed. Mayor, pp. 128-131, thus comments upon his style: 'This fulness, as it is not to be misliked in a young man, so in farther age, in greater skill, and weightier affairs, it is to be tempered, or else discretion and judgment shall seem to be wanting

in him. But if his style be still over rank and lusty, as some men, being never so old and spent by years, will still be full of youthful conditions, . . . such a rank and full writer must use, if he will do wisely, the exercise of a very good kind of epitome, and do as certain wise men do that be over fat and fleshy, who, leaving their own full and plentiful table, go to sojourn abroad from home for a while, at the temperate diet of some sober man, and so by little and little cut away the grossness that is in them. As for an example : If Osorius would . . . give his whole study not to write anything of his own for a while, but to translate Demosthenes with so strait, fast, and temperate a style in Latin as he is in Greek, he would become so perfect and pure a writer, I believe, as hath been few or none since Cicero's days. . . . And this is not written to the dispraise, but to the great commendation of Osorius, because Tully himself had the same fulness in him, and therefore went to Rhodes to cut it away.' Elsewhere (p. 110) Ascham intimates that his diction was Asiatic in its turgidity, though he calls him 'my friend Osorius.'

29 18. *Sturmius*. Joannes Sturm (1507-1589) was called the German Cicero. He founded the gymnasium at Strasburg, which attained under him world-wide celebrity. He was generally regarded as the greatest educator connected with the Reformed Church, and received the title *Præceptor Germaniæ*. His work gave a great impulse to the establishment of classical schools. To read, write, and speak Ciceronian Latin was the great object of his instruction, and to this end a course of twenty-one years—six at home, ten at school, five at college or university—was thought about sufficient. Ascham thought highly of Sturm, and named one son after him.

29 19. *Hermogenes*. An orator and rhetorician, born at Tarsus in Cilicia ; flourished at Rome under Marcus Aurelius. At the age of eighteen or twenty he composed his rhetorical system, which was for centuries the standard text-book.

29 21. *Car of Cambridge*. Nicholas Carr (1523-1568) succeeded Sir John Cheke as Regius Professor of Greek in 1547. He obtained a great reputation by his translations into Latin of the *Olynthiacs* and *Philippics* of Demosthenes, Plato's *Laws*, and the Oration of Æschines against Ctesiphon. *Ascham*. Author of the *Scholemaster*, tutor to Queen Elizabeth (1515-1568).

29 24. *Erasmus*. Scholar and philosopher (1467-1536). His

Colloquia, from which this quotation is taken, 'is ostensibly intended for the instruction of youth in Latin and morals, but abounds in satire and invective directed against the monks and the abuses of the Roman Church.' He was regarded as the most eminent scholar and the most witty writer of his time. See Charles Reade's *The Cloister and the Hearth*, and Froude's *Erasmus*.

29 25. *I have*, etc. '*Decem jam annos atatem trivi in Cicerone*. Echo. *bre*.'

29 31. *Is*. Omitted in the edition of 1605.

30 6. *Pygmalion's frenzy*. Pygmalion was a king of Cyprus, who fell in love with an ivory statue of a maiden which he had made. He prayed to Aphrodite to endue the statue with life. His prayer was granted, and the animated statue became his wife. Ovid, *Met.* 10. 243 ff. Selby says: 'To admire a frivolous book is like falling in love with lifeless stone. Cf. "In all speech, words and sense are as the body and the soul. The sense is as the life and soul of language, without which all words are dead." — Ben Jonson.'

30 9. *Life of . . . invention*. Cf. 29 15.

30 13. *Plausible*. Pleasing, winning.

30 20. *Period*. Conclusion.

30 21. *Be*. Have occasion.

30 22. *Civil*. Public.

30 25. *Hercules*. The story has been attributed to Cleander by the scholiast on Theocr. 5. 21. But, as Ellis says, Bacon probably took the story from the *Adages* of Erasmus.

30 32. *Distemper of learning*. 'In the Latin translation Bacon adds: "There is also another kind of style a little better than the former, and commonly following it in point of time, which aims at having the words pointed, the sentences concise, and the language rather forced than flowing. By a trick of this kind everything seems more ingenious than it really is. Such a style is found conspicuously in Seneca, and to a less extent in Tacitus and Plinius Secundus, and for some little time it has been pleasing to the ears of our own time. It is true that it is generally pleasing to men of ordinary understanding, so that it brings some dignity to literature; but it is justly despised by more polished judgments, and may be considered as one of the diseases of learning, because it is a kind of hunting after words and their charm"' (Selby). The foregoing is a condensed paraphrase, rather than a strict translation, of the Latin, and is based upon Ellis' note.

31 6. *Extensive*. Capable of being extended. *Avoid*, etc. 1 Tim. 6. 20.

31 10. *Positions*. Dogmas.

31 20. *The schoolmen*. I condense Selby's note: 'The scholastic philosophy was, in the main, an application of the logic of Aristotle to the development and explanation of the doctrines of the Christian faith. This was its character on the whole. Occasionally we meet with a schoolman who left the beaten track of theology. Roger Bacon, for instance, was as diligent and enthusiastic a votary of science as his more celebrated namesake. . . . The first of the schoolmen was Erigena, who was born between 800 and 810. The only work of Aristotle with which he was acquainted was the *Logic*. His philosophy was that of the later Platonists: and his system is an attempt to reconcile theology with his philosophy by means of the rules of the Aristotelian logic. . . . The most conspicuous figure in the twelfth century is Abelard, who came into conflict with, and was condemned by the Church, for his fearless application of the Aristotelian dialectic to subjects which, according to the contention of the Church, were to be settled by authority. It was not until the thirteenth century that scholasticism attained its full development, and all philosophy was included in theology. This phenomenon was due to the introduction into Europe of the ethical, physical, and metaphysical treatises of Aristotle. Armed with these, the Church was in a position to put forth an authoritative exposition of the truth on all subjects. The most eminent representative of this fully developed scholasticism is Thomas Aquinas. . . . The last representative of the scholastic method is the famous William of Ockham. When he appeared, scholasticism was doomed. In his works we see the human mind once more asserting its irrepressible claim to the right of freedom in speculation. Ockham was a revolutionist both in philosophy and politics. He employed his dialectic skill in attacking the main positions of the philosophy of Aquinas. He was scholastic in his method, but his philosophical ideas are those not of the past, but of succeeding generations. . . . The student will find an excellent sketch of the scholastic philosophy in Milman's *Latin Christianity*, bk. 14, ch. 3. He may also consult with advantage Whewell's *History of the Inductive Sciences*, Vol. 1, bk. 4.' In judging of the scholastic philosophy, it must be remembered that Dante's *Divine Comedy* is based, so far as its philosophical thought is concerned, upon the system of Thomas Aquinas.

31 23. *Aristotle their dictator.* Dante calls him (*Inf.* 4. 131) 'the master of those who know.'

31 27. *Webs.* The image, as Ellis notes, is from Erasmus (*Adag.* 4. 4. 43), who derived it from Plutarch, *On Osiris*.

32 5. *Fruitless speculation.* Selby adduces the following, which are among questions discussed by Thomas Aquinas, as glaring instances of fruitless speculation: 'Whether all angels belong to the same genus. Whether demons are evil by nature, or by will. Whether they can change one substance into another. Whether Christ possessed merit in the very instant of his conception, or not till the following instant. Whether an angel can move from one point to another without passing through the intermediate space. Whether, if Adam had not sinned, exactly equal numbers of males and females would have been born.'

To this it might be replied: (1) These are extreme instances, and by no means typical; (2) modern science has also its fruitless speculations, such as those concerning the oceans of Mars, whether the planets are inhabited, the temperature at the centre of the earth, how many years it will be before the sun has cooled off to the present temperature of the earth, etc. Modern science would not wish its sanity and utility to be judged, in a remote and unsympathetic age, merely by these questions, nor by certain technical descriptions in conchology, for instance.

32 8. *Amongst them.* Selby says: 'At the best, their method was but an analysis, according to the rules of logic, of abstract terms and popular generalizations. So long as the terms which men use are an inadequate or incorrect expression of facts, mere formal consistency in reasoning is simply consistency in error. Moreover, progress was impossible. No new ideas were got by fresh examinations of nature, consequently the schoolmen were perpetually engaged with the same questions. Another circumstance which hindered progress was that they were not allowed to question their premises. In the sphere of theology they were bound by the dogmas of the Church; in the sphere of physics, 'Aristotle was their dictator.' Cf. Whewell, 'On the Character of Commentators' (*History of the Inductive Sciences*, Vol. I., bk. iv. ch. ii).'

32 17. *The sticks of the fagot.* From *Æsop, Fable 52*.

32 20. *He breaks up.* Inaccurately quoted from Quintilian 10. 1. 130. Ellis remarks: 'The method of the schoolmen is correctly described in the text. Generally each *questio* or inquiry

begins with a statement of the different points which are to be elucidated. To each of these is allotted a separate *articulus*. One or more reasons are alleged in favor of the opinion which the author means to reject. Some objection, generally founded on a quotation from some conclusive authority, is then stated against it, and then the author gives his own opinion in what is called the *conclusio*, and proceeds to refute one by one the arguments he has adduced on the other side. It is impossible not to recognize in this method of procedure the influence of a system of oral disputation.'

32 26. *Watch-candle*. Night-light.

32 30. *Cavillation*. Cavil, captious objection.

33 5. *Girt with*, etc. Virgil, *Ecl.* 6. 75.

33 6. *Generalities*. Generalizations.

33 9. *Fruitful*. Selby remarks: 'The student should notice the stress which Bacon lays on the proposition that all study is worthless which is not productive of benefits to mankind.' True enough; but the student should also ask himself what are benefits. Railroads are beneficial, no doubt; but so also are good government, employment for the industrious, charity toward the destitute, peace of mind, contentment, etc. Man has other than purely material needs. Discussion which tends to establish the nature of these needs, and the means of satisfying them, is not useless, though it may not add to the store of material wealth. Not all the wealth now extant produces happiness, and, of the two, happiness is the more important.

33 15. *Which never meet*. On this ground, most philosophical discussion could be condemned. *Digladations*. Quarrels. From Lat. *gladius*, a sword.

33 18. *This is the talk*, etc. Again in *Nov. Org.* 1. 71. Diogenes Laertius, *Plato* 3. 18. The Greek is: *οι λόγοι σου γεροντιῶσι*.

33 20. Note this concession.

33 23. *But as they are*, etc. The rest of the sentence is omitted in the Latin.

33 24. *With dark keeping*. Ellis explains: With being kept in the dark, like animals. He quotes from Bacon's *Cogitationes de Scientia Humana*, 1st frag. cog. 10 (*Works* 3. 187, cf. 287): *ferocitatem autem et confidentiam eam qua illos qui pauca norunt sequi solet (ut animalia in tenebris educata) acquisivissent*.

33 26. *Oracle of God's word*. Cf. Acts 7. 38; Rom. 3. 2.

33 28. *Oracle of God's works*. Cf. 9 34 ff., 31 29 ff.

33 30. *Unequal*. Uneven. *Mirror*. Cf. 6 16 ff.

34 2. *Of all the rest the foulest*. A confusion of two expressions, 'Foulest of all,' and 'Fouler than all the rest.'

34 3. *The essential form*. The Latin has: 'The very nature and soul.'

34 4. *For the truth*, etc. Ellis quotes Thomas Aquinas, *Summa Theol.* 1, qu. 16, a. 1.

34 12. *The verse*. Horace, *Epist.* 1. 18. 69.

34 19. *As fast*, etc. *Ann.* 5. 10, slightly altered; cf. *Hist.* 1. 51. Church and Brodribb render: 'Which they no sooner invented than believed'; Selby: 'Those who are prone to invent are also prone to believe.' Spedding translates as above, and says: 'I think this is the sense in which Bacon must have understood these words, but it is not the sense in which Tacitus employs them. He meant that . . . they "credited their own lie."'

34 22. *This facility of credit*. Bacon is intimating the importance of the critical attitude, without which there can be no investigation.

34 25. *Or, as*. The original edition has only 'as.'

34 29. *Miracles*. There are two difficulties here. Were there ever miracles? Conceding that there were, when did they cease? Were there miracles in the first century A.D., but not in the second? In the second, but not in the third? Are we to believe Acts 3. 2 ff., 14. 8 ff., 19. 11 ff., etc., and then reject every similar account not related in the Bible? Cf. Mk. 11. 23, 24; 16. 17, 18, with Matt. 24. 24; 2 Thess. 2. 8.

34 31. *Which though*, etc. Omitted in Latin.

35 7. *Antichrist*. 1 John 2. 18, 22; 4. 3.

35 11. *Plinius*. A.D. 23-79. Cf. Sir Thomas Browne, *Vulgar Errors* 1. 8: 'Plinius Secundus of Verona, a man of great eloquence, and industry indefatigable, as may appear by his writings, especially those now extant, and which are never like to perish but even with learning itself; that is, his *Natural History*. He was the greatest collector or rhapsodist of the Latins, and, as Suetonius observeth, he collected this piece out of two thousand Latin and Greek authors. Now what is very strange, there is scarce a popular error passant in our days which is not either directly expressed, or deductively contained, in this work.' Pliny perished in the eruption of Vesuvius in A.D. 79.

Cardanus. Jerome Cardan (1501-1576). He invented Cardan's Formula for the solution of cubic equations. See Henry Morley's

Life of Jerome Cardan. Sir Thomas Browne says (as above): 'We had almost forgot Jeronimus Cardanus, that famous physician of Milan, a great inquirer of truth, but too greedy a receiver of it. He hath left many excellent discourses, medical, natural, and astrological; the most suspicious are those two he wrote by admonition in a dream, that is, *De Subtilitate et Varietate Rerum*.'

Albertus. Sir Thomas Browne: 'Albertus, Bishop of Ratisbon, for his great learning and latitude of knowledge surnamed Magnus. Besides divinity, he hath written many tracts in philosophy; what we are chiefly to receive with caution are his natural tractates, more especially those of minerals, vegetables, and animals, which are indeed chiefly collections out of Aristotle, Ælian, and Pliny, and respectively contain many of our popular errors.' Born in Suabia, A.D. 1193.

35 12. *The Arabians.* 'See Gibbon, ch. 52, and Whewell's *History of the Inductive Sciences*, Bk. 4, ch. 2. They became acquainted with the philosophy and science of the Greeks in the eighth century after Christ. It was through them that the schoolmen became acquainted with the physical and metaphysical works of Aristotle; and their commentaries on the works of Aristotle, especially those of Ibn-Raschid, known in Europe as Averroes, had a considerable influence on the scholastic philosophies. In philosophy, however, the Arabians confined themselves to explaining and developing the doctrines of Aristotle; it was in the sphere of science that they displayed originality. To the science of medicine especially, and also to the sciences of chemistry and algebra, they made considerable contributions' (Selby).

35 17. *Exquisite.* Elaborate. What is the etymology?

35 20. *Side.* *Sake* is edd. 1605, 1629, 1633.

35 21. *One book.* Wright says: 'The book *De Mirabilibus Auscultationibus*, to which Bacon refers, is not Aristotle's'; but in his comment on Bk. 2. 1. 4, he says 'is now believed not to be by him.'

35 27. *Arts and opinions.* Cf. 34 28.

35 31. *Intelligence.* Correspondence.

35 35. *Astrology.* 'Napoleon, as well as Wallenstein, believed in his star. Even now that the science is dead, it lives on in our language. Many passages in our older poets are unintelligible without some knowledge of astrology. Chaucer wrote a treatise on the astrolabe; Milton constantly refers to planetary influences; in

Shakespeare's *King Lear* Gloucester and Edmund represent reflectively the old and the new faith. We still *contemplate* and *consider*; we still speak of men as *jovial*, *saturnine*, or *mercurial*; we still talk of the *ascendency* of genius, or a *disastrous* defeat' (*Encycl. Brit.*).

36 2. *Natural Magic*. In the *De Augmentis* Bacon says 'that the proper function of Natural Magic is to apply the knowledge of hidden causes to the production of wonderful results.' Cf. note on 14 31. *Pretendeth*. Aims.

36 3. *Reduce*. Bring back.

36 4. *Alchemy*. In the Latin he amplifies: 'Alchemy professes to extract and eliminate the heterogeneous elements which are latent in substances as they exist in nature, and to purify bodies which are impure, to set free those which are enchained, and to perfect those which are incomplete.' Out of alchemy arose the modern science of chemistry.

36 7. *Derivations and prosecutions*. 'The subsidiary channels leading to those ends, and the modes in which they have been followed' (Wright).

36 11. *Auricular traditions*. Teaching by word of mouth, that it should be inaccessible to the vulgar and those who would make an improper use of it.

36 14. *The fable*. *Fab.* 33.

36 25. *Dictators*. Cf. 31 23.

36 26. *Consuls*. This word, according to Spedding, should probably be 'counselors.' The original edition has 'counsels,' which those of 1629 and 1633 change to 'consuls.' The Latin supports Spedding's view: 'Credulity has invested certain authors with a dictatorial power of giving orders, instead of the senatorial power of giving counsel.'

36 28. *Stay*. Standstill.

36 29. *Comen*. The old ending is found in literature till near the close of the seventeenth century, and is still used dialectally in England.

36 32. *Leeseth*. Impairs. Regularly derived from OE. *lēosan*, like the archaic *cheese*, 'choose,' from *cēosan*.

37 1. *Democritus*. Born at Abdera, in Thrace, about 460 B.C. His later biographers call him the laughing philosopher, in distinction from Heraclitus, the weeping philosopher. His doctrine, known as the atomistic or corpuscular philosophy, is that matter is eternal,

and that the universe is composed of empty space, and indivisible atoms which are infinite in number. Many of his ideas and theories were adopted by Epicurus, and explained by Lucretius in his poem *De Rerum Natura*. 'Bacon thought more highly of him than of any of the Greek philosophers, because he devoted himself more to the study of nature, and less to the elaboration of logical forms' (Selby). *Hippocrates*. The father of medicine, and the most distinguished of Greek physicians; born 460 B.C. *Euclides*. Euclid of Alexandria, the father of geometry; lived about 300 B.C. *Archimedes*. The greatest of ancient geometers; born at Syracuse about 287 B.C. He is the author of the saying, 'Give me where I may stand and I will move the world,' whence the phrase *pou sto* (πὸ ὅπου). According to Professor Donkin, 'he possessed, in a degree never exceeded unless by Newton, the inventive genius which discovers new provinces of inquiry, and finds new points of view for old and familiar objects.'

37 8. *For as water*, etc. In his *Interpretation of Nature* (*Works* 2. 227) Bacon says: 'For knowledge is like a water that will never rise again higher than the level from which it fell; and therefore to go beyond Aristotle by the light of Aristotle is to think that a borrowed light can increase the original light from which it is taken.' Ellis thinks the comparison of Descartes finer, where, in the *Discourse on Method*, he compares the servile followers of Aristotle to 'the ivy which seeks to rise no higher than the trees which sustain it, and which indeed often falls back after arriving at their summit.'

37 13. *Position*. Maxim. Taken from Aristotle, *On the Reprehension of Sophists* 2.

37 15. *When he has learned*. Nothing could be more judicious.

37 21. *As*. That.

37 24. *These three diseases*. Cf. 29 31 (28 6), 30 33, 34 1.

37 25. *Peccant*. Unhealthy.

37 27. *Intrinsic*. Internal.

37 31. *Extremities*. Things that are themselves already extreme.

37 33. *As he devoureth*, etc. 'Bacon refers to the Greek myth, according to which Kronos, *i.e.*, time, devoured his children as soon as they were born. Bacon says that the children are imitating the father: the old days wishing to destroy the later, and the later to destroy the older' (Selby).

38 5. *Stand ye*, etc. Jer. 6. 16.

38 10. *Antiquity*, etc. Not a direct quotation, as Ellis thinks, though he refers to Casmann, Gilbert, Galileo, Campanella, and Giordano Bruno. In the *Novum Organum* (1. 84) Bacon says: 'The present time is the real antiquity, for the world has now grown old. And, indeed, as we expect greater knowledge and riper judgment from an old man than from a youth, because of his wider experience, so it is natural to expect far greater things from our own age than from ancient times; for the world has now grown old, and has been enriched with countless experiments and observations.' Ellis quotes 2 Esdras 14. 10: 'The world has lost its youth, and the times begin to grow old.'

38 18. *Lucian*. Rather Seneca, as quoted by Lactantius, *De Falsa Religione* 1. 16. Ellis compares Juvenal 6. 59.

38 23. *Made against old men's marriages*. Rather for the encouragement of younger men's marriages.

38 31. *Livy* 9. 17.

39 3. *Columbus*. Ellis quotes from a letter of Columbus, who, writing in 1503 to Ferdinand and Isabella, says: 'I was seven years at your court, and for seven years I was told that my plan was an absurdity; and now the very tailors ask leave to go to discover new countries.' Cf. the story of Columbus and his egg, which, however, is not true of Columbus (Ellis in *Works* 1. 459).

39 8. *Relation*. 'A technical term in law, denoting that effect is given to an action from a date preceding that on which it was performed. For example, letters of administration, though issued after a man's decease, take effect from the day of his death. In the case of simple truths, Bacon says, we appear to ourselves to have known them before the time at which we actually acquired them' (Selby).

39 16. *The multitude*. In the *Interpretation of Nature*, Bacon says: 'The state of knowledge is ever a democracy, and that prevaileth which is most agreeable to the senses and conceits of people.'

39 19. *Time*. Elsewhere he says the same of Fame (*Essay* 53).

39 23. *Another error*. Cf. *Interpretation of Nature* (*Works* 3. 247): 'Men have used of a few observations upon any subject to make a solemn and formal art, by filling it up with discourse, accommodating it with some circumstances and directions to practice, and digesting it into method, whereby men grow satisfied and secure, as if no more inquiry were to be made of that matter.'

39 24. *Peremptory*. Arbitrary.

39 31. *Illustrate*. Lat. *illustratus*. When we add *-d* (as is done in the edition of 1633), it is really a second participial ending.

40 3. *Universality*. How often has this word already occurred? Selby very justly says: 'Bacon frequently and wisely emphasizes the danger of excessive specialization. The world is so vast that we are obliged to study it in parts. The specialization of inquiry is only an application of the principle of what economists call the division of labor to intellectual industry. But there are no absolute divisions in nature corresponding to the divisions of the sciences. If, therefore, we study a subject in isolation, we must remember that our conclusions will have to be modified in virtue of the relation in which the subject really stands to the rest of nature. Each science, in other words, gives an imperfect view of its object. The *first philosophy* of Bacon is intended to correct the errors of specialized inquiry. It was to determine the principles common to all or many sciences, *i.e.*, it was to show how nature works according to the same laws in different spheres; and secondly it was to answer certain general questions about nature which it is not the business of any special science to solve. Cf. "All knowledge forms one whole, because its subject-matter is one: for the universe in its length and breadth is so intimately knit together that we cannot separate off portion from portion, and operation from operation, except by mental abstraction. . . . Sciences are the result of that mental abstraction which I have spoken of, being the logical record of this or that aspect of the whole subject-matter of knowledge. As they all belong to one and the same circle of objects, they are one and all connected together; as they are but aspects of things, they are severally incomplete in their relation to the things themselves, though complete in their own idea and for their own respective purposes; on both accounts they at once need and subserve each other. And further, the comprehension of the bearings of one science on another, and the use of each to each, and the location and limitation and adjustment and due appreciation of them all, one with another, this belongs, I conceive, to a sort of science distinct from all of them, and in some sense a science of sciences, which is my own conception of what is meant by philosophy, in the true sense of the word, and of a philosophical habit of mind.'" Cardinal Newman's *Idea of a University*, Discourse iii. § 4.'

40 8. *Ascend not to a higher science.* The scientific and historical inquiry of the nineteenth century received a powerful impulse from the German philosophy of the latter part of the eighteenth. The same is true of poetry. The Romantic movement is responsible for a great deal of subsequent antiquarian research. The progress of learning is dependent upon enthusiasm and a sense of values. Now nothing creates enthusiasm and a sense of values like the perception of large views. To the mind thus awakened and expanded all things seem possible; the imagination pictures new conquests of the unknown, and dwells on their importance; and in this delightful frenzy great works are undertaken and even carried to completion. In his 278th *Apothegm* Bacon says: 'Aristippus said that those that studied particular sciences and neglected philosophy were like Penelope's wooers, and made love to the waiting woman.'

40 17. *Heraclitus.* Born at Ephesus, in Asia Minor, about B.C. 535, or perhaps about 500. His philosophy has 'passed in a sublimated form into the *Logic* of Hegel. At the present moment it bids fair to be resuscitated in the form of Monism, and has doubtless a great and beneficent future.'

40 18. *Men sought*, etc. Quoted by Sextus Empiricus, *Against the Logicians* I. 133.

40 21. *Volume of God's works.* Cf. 9 35, 33 28.

40 32. *The second school of Plato.* The Neoplatonists. They formed a philosophical school which originated in Alexandria in the third century after Christ, was professedly founded on the doctrines of Plato, but, as has been shown by Hegel, is more indebted to the ideas of Aristotle than to Plato, and denotes the last attempt of the speculative spirit of the Greek civilization to establish a scientific basis for its development. The school was founded by Ammonius Saccas (175-241 A.D.), further developed by Plotinus (205-270), and continued by Porphyrius (233-305), Iamblichus (died about 330), Proclus (412-485), and others.

Proclus. 'Born in Constantinople, but spent most of his life in Athens. He wrote commentaries on Plato's dialogues, that on the *Timæus* being especially well known. His own philosophical ideas are mainly contained in his treatise *On the Platonic Theology*' (Selby).

41 1. *Which had*, etc. The Latin has 'which they used to fondle as if they had been their first-born children.'

41 3. *Gilbertus.* William Gilbert (1540-1603), court physician to Queen Elizabeth, and author of the celebrated treatise *On the*

Magnet, was, according to Fowler, the real founder of the sciences of electricity and magnetism. Elsewhere Bacon praises him for his industry and method, though he justly censures him for endeavoring to build a universal philosophy upon so narrow a basis; and Galileo extols him in his *Dialogues on the Chief Systems*. 'His work,' says Dr. Whewell (*Hist. of Ind. Sc.* Bk. 12, ch. 1), 'contains all the fundamental facts of the science, so fully examined, indeed, that even at this day we have little to add to them.' See also Whewell's *Philosophy of Discovery*, Ch. xiv. § 7.

41 6. *A musician*. Aristoxenus (350-320 B.C., or thereabouts).

41 7. *Pleasantly*. Jocularly.

41 7. *He was*, etc. *Tusc. Disp.* 1. 10. 20.

41 8. *Profession*. Changing *artificio* to *arte*.

41 9. *They who take*, etc. *On Generation and Corruption* 1. 2.

41 14. *Two ways*. 'Bacon probably refers to Xenophon (*Memorabilia* ii. 1. 20), who quotes Hesiod, *Works and Days* 287-292, and introduces Prodicus' fable of the choice of Hercules' (Wright). Xenophon says: 'Do not aim at ease, lest you meet with discomfort,' and 'The gods sell us all good things for labor.'

41 23. *Magistral*. Dogmatic.

41 29. *Velleius*. A Roman senator, introduced by Cicero into his treatise *On the Nature of the Gods* as one of the supporters of the Epicurean philosophy. The quotation is from 1. 8. 18.

41 31. *His*. Erroneously used for the 's of the possessive.

42 1. *Ironical doubting*. 'The word "irony," as applied to Socrates, means "self-depreciation." Socrates wrote nothing, and established few positive conclusions. It was his custom to profess entire ignorance of a subject, and to ask some one for an explanation of it. This explanation he then criticized, and by a process of cross-examination showed that the explanation which he had received was either insufficient or incorrect. His chief subject of discussion was the meaning of general names, specially those of moral philosophy. Socrates thus performed the essential service of showing men their ignorance, and putting them in the way of right reasoning' (Selby).

42 6. *Devote*. Edition 1633 has 'devoute.'

42 23. *Benefit and use*. Cf. *The Interpretation of Nature*: 'The true end, scope, or office of knowledge . . . I have set down to consist not in any plausible, delectable, reverend, or admired discourse, or any satisfactory arguments, but in effecting and working, and in

discovery of particulars not revealed before for the better endowment and help of man's life.'

42 35. *Saturn*, etc. Wright compares Macrobius *On Scipio's Dream* 1. 12.

43 4. *Lucre and profession*. Cf. 42 21.

43 7. *Atalanta*. The story is told by Ovid (*Met.* 10. 560 ff.). When her father desired her to marry, she made it the condition that every suitor should first of all contend with her in the foot-race. Milanion conquered her in this manner. Aphrodite had given him three golden apples, and during the race he dropped them one after the other. She could not resist the temptation to stop and pick them up, and so lost the race.

43 10. *To call philosophy down*. Cicero, *Tusc. Disp.* 5. 4. 10: 'Socrates was the first to call down philosophy from heaven, to place it in cities, to introduce it even into men's homes, and to force it to inquire concerning life and morals, concerning things good and evil.'

43 13. *Manners and policy*. The life of man and of the state.

43 24. *Hath*. So all the old editions (Spedding).

43 27. *Faithful*, etc. Prov. 27. 6.

44 4. *Varnish*. Glose.

44 9. *Arch-type*. We should now say *archetype*. *Platform*. Pattern.

44 15. *Wisdom or sapience*. Cf. Ps. 104. 24; Prov. 8. 22; Eccclus. 1. 5; Job 32. 8; Wisd. 7. 25; Col. 2. 3.

44 17. *The one*, etc. Cf. Gen. 1. 2 with 1. 3 ff. Ellis remarks: 'The first of these is by the schoolmen ascribed more especially to the first, and the second to the second person of the Trinity.'

44 19. *Subsistence*. Substance.

44 30. *God made*, etc. Gen. 1. 1. *The one*. Matter; cf. 44 19.

44 31. *The other*. Form; cf. 44 20.

44 35. *Dionysius*. The spurious mystical writings which bear his name (cf. Acts 17. 34), and which had permanent influence in developing Roman Catholic mystical theology, attempt to unite Neoplatonic ideas with those distinctively Christian. They appear to have had their origin in Alexandria during the fifth century. In the ninth century they were brought into Western Europe. Cf. Dante, *Par.* 28. 130 ff.; Milton, *P. L.* 5. 601, 772, 840.

45 10. *Light*. Gen. 1. 3.

45 13. *The day*. Gen. 2. 3.

45 18. *In the garden.* Gen. 2. 8.

45 22. *Reluctation.* Painful effort. *Sweat of the brow.* Gen. 3. 19.

45 26. *Two summary parts.* Gen. 2. 19.

45 30. *Good and evil.* Cf. 5 28 ff. This depends upon Thomas Aquinas, *Summa Theol.* 2. q. 163, a. 2.

46 3. *Not violating,* etc. Bacon follows the mediæval theologians and Dante in recognizing an allegorical, as well as a literal sense.

46 4. *The contemplative,* etc. Bacon agrees with mediæval Christianity in placing the contemplative life higher. Cf. Dante, *Purg.* 27, and Ruskin, *Mod. Painters* 3. 4. 35-41; Wordsworth, *Excurs.* 5. 608-625; 6. 102-244.

46 5. *Abel and Cain.* Gen. 4. 2. Ellis says: 'By Philo Judæus, whom Bacon has more than once quoted, Cain is taken as the type of the frame of mind which leads us to refer to ourselves the origin of our thoughts and energies, — Abel of that which refers all things to God. See also Augustine, *Civ. Dei* 15. 1. From this view the transition to that of the text is easy. The generally recognized types of the active and contemplative ways of life are, I think, Rachel and Leah in the Old Testament, Mary and Martha in the New. See S. Augustine, *De Consens. Evangelist.* 1 for what is said of Leah and Rachel, and S. Thomas Aquinas, *Sum. Theol.* 2. 2. q. 179. a. 2.' For Rachel and Leah cf. Dante, *Purg.* 27. 97-108; Gregory the Great, *Moral.* 7. 28; *Hom. in Ezek.* 14.

46 10. *Husbandman.* The Latin adds, 'one who is weary with labor, and whose eyes are bent upon the ground.'

46 16. *Inventors,* etc. Gen. 4. 21, 22.

46 18. *Confusion of tongues.* Gen. 11. 6.

46 21. *God's first pen.* Cf. Dante, *Mon.* 3. 4. 84-7.

46 23. *In all the learning,* etc. Acts 7. 22.

46 25. *Plato. Timæus* 3. 22: 'Thereupon one of the priests, who was of a very great age, said: "O Solon, Solon, you Hellenes are but children, and there is never an old man who is a Hellenes." Solon in return asked him what he meant. "I mean to say," he replied, "that in mind you are all young; there is no old opinion handed down among you by ancient tradition, nor any science which is hoary with age."'

46 29. *Prefiguration.* The ritual law is interpreted by Christian theologians as containing types of Christ. See, for example, Exod. 12. 3; 25. 31; 27. 1; Lev. 16. 20.

- 46 30. *Badge or difference.* Distinguishing mark.
- 46 35. *Reduction of.* Inference from.
- 47 1. *The law.* Lev. 13. 12, 13.
- 47 11. *Aspersions.* Intermixture.
- 47 12. *Book of Job.* Ellis says: 'A similar view of the book of Job will be found in Giordano Bruno. See his works, I. 174 of Wagner's edition.'
- 47 15. *He stretcheth,* etc. Job 26. 7.
- 47 20. *By his spirit,* etc. Job 26. 13.
- 47 22. *Shalt thou,* etc. Job 38. 31, in the Vulgate.
- 47 26. *Who maketh,* etc. Job 9. 9.
- 48 2. *Hast thou,* etc. Job 10. 10.
- 48 4. *Silver hath,* etc. Job 28. 1, 2.
- 48 10. *Solomon's petition.* Cf. 1 Kings 3. 5.
- 48 13. *Parables,* etc. Cf. 1 Kings 4. 32, 33.
- 48 16. *Moss.* Bacon follows the rendering of Junius and Tremellius.
- 48 17. *Rudiment.* Cross.
- 48 24. *The glory,* etc. Prov. 25. 2.
- 49 4. *Priests and doctors.* Lk. 2. 46.
- 49 7. *Gift of tongues.* Acts 2. 1.
- 49 11. *Unlearned.* Cf. Acts 4. 13.
- 49 12. *Inspiration.* Cf. Matt. 10. 19.
- 49 18. *Only learned.* The only learned man. Ellis remarks: 'It has been thought, however, that St. James must have been acquainted with astronomy. This opinion is founded on the phrase rendered in the English version "variableness or shadow of turning"; his meaning being, it is said, that neither parallax nor the alternate approach to and receding from the solstice offsets the Sun of suns, whose aspect is the same at all places and throughout all time. Certainly if no astronomical allusion is intended, it is curious to see how easily the expressions used admit of this interpretation.'
- 49 19. *Had his pen most used in.* Wrote the greater part of.
- 49 21. *Bishops and fathers.* Such as Basil, Chrysostom, Jerome, Augustine, etc.
- 49 24. *Julianus.* Julian the Apostate (331-363). He reigned but eighteen months. *Interdicted.* Wishing 'to destroy Christianity and to restore the early religion of Rome, he issued an edict, A.D. 363, forbidding Christian professors to teach. This indirectly forbade Christians to learn, since they could not conscientiously attend

the schools of Pagan teachers' (Selby). Cf. Gibbon, Chap. 23; Ammianus Marcellinus 22. 10. 7; 25. 4. 19; Julian, *Epist.* 42.

49 30. *Gregory*. Cf. *Essay* 58, where Bacon adduces Machiavelli's statements. Gregory's defense against such accusations as these has been undertaken by the learned and eloquent Montalembert (*Monks of the West* 2. 143-5): 'Must we now condescend to refute, after the example of many other writers, the calumnious accusations brought against Gregory by blind enemies, and sometimes by imprudent admirers, on the subject of his supposed contempt for literature and science? He is accused of having destroyed the ancient monuments of Rome, burnt the Palatine library, destroyed the writings of Cicero and Titus Livius, expelled the mathematicians from Rome, and reprimanded Bishop Didier of Vienne for teaching grammar to children. None of these imputations, except the last, is founded upon any authority earlier than the twelfth century.¹ The most authentic evidence, on the contrary, exhibits him to us as educated in the schools, as nourished by the wise discipline of ancient Rome, and surrounded by the most learned priests and monks of his time, making the seven liberal arts, as his biographer says, noble pillars of the portico of the apostolical chair.² His contemporary, Gregory of Tours, who visited him in Rome, says of him that he was unequalled for grammar, dialectics, and rhetoric.³ He had, doubtless, made many efforts to root out paganism, which perpetuated itself in the literary tastes and popular habits of that Italy, where a short time before St. Benedict had found a temple of Apollo upon the summit of Monte Cassino. He disapproved of bestowing exclusive attention upon mythological subjects, but never either wrote or commanded anything against the study of humane or classical literature. He has, on the contrary, proved at length that this study was a useful preparation and indispensable help to the understanding of sacred literature. He regarded the disgust of certain Christians for literary studies as a temptation of the devil, and added: 'The devils know well that the knowledge of profane literature helps us to understand sacred literature. In dissuading

¹ The first author who has mentioned this, and with praise, is John of Salisbury, who died in 1183.

² 'SeptemPLICIBUS artibus, veluti columnis nobilissimorum totidem lapidum, apostolicæ sedis atrium fulciebat' [i.e. sapientia]. — Joan. Diac. 2. 13. Compare *ibid.*, c. 14.

³ 'Litteris grammaticis dialecticisque ac rhetoricis ita erat institutus ut nulli in urbe ipsa putaretur esse secundus.' — Greg. Turon., *Hist. Franc.* 10. 1.

us from this study, they act as the Philistines did, when they interdicted the Israelites from making swords or lances, and obliged that nation to come to them for the sharpening of their axes and ploughshares'¹ (1 Sam. 13. 19, 20). He reproved the bishop of Vienne only for devoting himself to reading and teaching the profane poets, to the prejudice of the dignity of his charge, and represented to him that the praises of Jupiter did not come fitly from the same lips which uttered those of Jesus Christ.² It is by an exaggeration of humility that, in the dedication of this book upon Job, he shows a scorn of grammar and barbarity of language which is nowhere to be found in his writings. He certainly did not write the Latin of Cicero or even of Tacitus, but he contributed as much as St. Augustine to form the new Latin, the Christian Latin, destined to become the language of the pulpit and the school, and from which all our modern languages have proceeded.'³

Since the impartiality of Montalembert may be suspected, other opinions will be in point. Gibbon says (ch. 45) that 'the evidence of his destructive rage is doubtful and recent.' Lau, Gregory's biographer, thinks (pp. 10-11) that the testimony of Gregory of Tours and John the Deacon prove rather that learning in general was in a low condition than that Gregory was a paragon; he attaches little weight to the declaration of John of Salisbury that Gregory burnt the Palatine library (*Nug. Cur.* 8. 19) in order to increase the regard for Holy Writ, and that he banished mathematicians because they foretold the future (*ib.* 2. 26), and as little to the fifteenth century discovery that he burned the books of Livy because of the miracles they related (cf. Dante, *De Mon.* 2. 4); but he admits, on the strength of Gregory's own confession, that he knew no Greek (*Epist.* 7. 32; 11. 74) and that he professed to set no store by grammar (Migne 75. 516,⁴ and the epistle to Desiderius), but accounts

¹ 'Ad hoc quidem tantum liberales artes discendæ sunt, ut per instructionem illarum divina eloquia subtilius intelligantur. A nonnullorum cordibus discendi desiderium maligni spiritus tollunt, ut et sæcularia nesciant, et ad sublimitatem spiritalium non pertingant. . . . Aperte quidem dæmones sciunt quia, dum sæcularibus litteris instruimur, in spiritalibus adjuvamus. Cum ergo nos ea discere dissuadent, quid aliud quam ne lanceam ut gladium faciamus præcauent?' Migne, *Patr. Lat.* 79. 375-6.

² 'Quia in uno se ore cum Jovis laudibus Christi laudes non capiunt.'—*Epist.* 11. 54.

³ Ozanam.

⁴ 'Ipsam loquendi artem, quam magisteria disciplinæ exterioris insinuant, servare desepi. Nam . . . non metacismi (*Al.* mutacismi, mytacismi) collisionem fugio, non barbarismi confusionem devito, situs (*Al.* hiatus) motusque (*Al.* *ins.* etiam) et

for his attitude by the barbarism of his age and by Gregory's exclusive preoccupation with religious concerns. Ebert (1. 525) approves of Gregory's contempt for the florid rhetoric of his age, quotes his approval of St. Benedict in the words (*Dial.* 2, *init.*), 'Recessit igitur scienter nescius et sapienter indoctus,' and thinks that the ignorance then prevalent has been greatly exaggerated. Hallam (Part I, chap. 1) notes that Gregory has been warmly defended by Tiraboschi (3. 102), and says that John of Salisbury 'is of too late an age to demand much credit.' Milman remarks (Bk. 3, chap. 7): 'Gregory, not from his station alone, but by the acknowledgment of the admiring world, was intellectually as well as spiritually the great model of his age. He was proficient in all the arts and sciences cultivated at that time; the vast volumes of his writings show his indefatigable powers, their popularity and their authority his ability to clothe those thoughts and those reasonings in language which would awaken and command the general mind.' He thus accounts for the letter to Desiderius: 'His aversion to such studies is not that of dread or hatred, but of religious contempt; profane letters are a disgrace to a Christian bishop; the truly religious spirit would loathe them of itself.' To the same effect Comparetti, *Vergil in the Middle Ages*, p. 89, referring also to Gregorovius, *Die Stadt Rom im Mittelalter* 2. 90. This matter deserves such extended notice because Gregory's position is frequently commented upon, and generally by those who form their opinion at second hand.

Gregory has been called the father of the mediæval church. Born about 540 of a wealthy senatorial family, he became prætor while still a young man, but soon turned to religion, and entered a monastery perhaps as early as 573. He endowed six monasteries in Sicily, and lavished on the poor all his costly robes, his silk, his gold, his jewels, his furniture. At this period his whole time was passed in prayer, reading, writing, and dictation. He became abbot of St. Andrew's, held the famous conversation about the English slaves, and afterwards was sent as ambassador and papal secretary to the imperial court at Constantinople. Called unanimously to the pontifical throne (590), his protestations and efforts to escape

præpositionum casus servare contemno, quia indignum vehementer existimo ut verba celestis oraculi restringam sub regulis Donati.' Gregory had been explaining that in this treatise on Job, which he was sending to Desiderius, no one need look for abundance of leaves, that is, words, since leaves and grain were likely to stand in inverse ratio to each other.

were of no avail. On the ritual and music of the Roman Church he exerted an influence which has endured to this day, so that the Gregorian chants continue to express the very soul of organized, militant, and triumphant Christianity, as well as the aspirations of the individual believer; he became the apostle of the English people, and thus his writings are reflected in the poetry of Cynewulf, and were translated by King Alfred; in all ways he magnified his office, and used it for the benefit of the world. He died in 604.

50 3. *Scythians*. 'The Scythians or Tartars invaded the Gothic Empire A.D. 375. See Gibbon, ch. 26' (Wright).

50 5. *Saracens*. 'The Arabs under Abubeker conquered Syria A.D. 633-639. See Gibbon, ch. 51' (Wright).

50 6. *Even of heathen learning*. The manuscripts of classic authors now extant were practically all transcribed from older ones by the monks of the Middle Ages.

50 9. *And we see*, etc. From here to 'knowledges,' l. 16, is omitted in the Latin.

50 15. *Renovation and new spring*. The Renaissance, or so-called Revival of Learning.

50 17. *Jesuits*. Cf. 21 5 ff.

50 27. *Psalms*. Cf., for example, Ps. 19 and 104.

50 32. *Construe*. Deliver an opinion.

51 1. *You err*, etc. Matt. 22. 29.

51 3. *Two books*. Cf. 9 34 ff.

51 19. *Obtain*. Attain.

51 28. *Middle term*. 'There were three degrees of honor—deification was the highest, and honor granted during a man's lifetime, or human honor, the lowest; between these two extremes came the honor of being made a demigod—which Bacon calls "honor heroical"' (Selby). Cf. *Essay 55*: 'The true marshaling of the degrees of sovran honor are these. In the first place are *conditores imperiorum*, founders of states and commonwealths; such as were Romulus, Cyrus, Cæsar, Ottoman, Ismael. In the second place are *legislatores*, lawgivers, which are also called second founders, or *perpetui principes*, because they govern by their ordinances after they are gone; such were Lycurgus, Solon, Justinian, Edgar, Alphonsus of Castile the Wise, that made the *Siete partidas*. In the third place are *liberatores*, or *salvatores*, such as compound the long miseries of civil wars, or deliver their countries from servitude of strangers or tyrants, as Augustus Cæsar, Vespasianus,

Aurelianus, Theodoricus, King Henry the Seventh of England, King Henry the Fourth of France. In the fourth place are *propagatores* or *propugnatores imperii*, such as in honorable wars enlarge their territories, or make noble defense against invaders. And in the last place are *patres patriæ*, which reign justly, and make the times good wherein they live. Both which last kinds need no examples, they are in such number.'

51 29. *Honors heroical*. 'Honor heroical' in the editions of 1605, 1629, and 1633.

51 33. *Fathers of the people*. Cicero, after defeating the conspiracy of Catiline, was styled 'father of his country.'

52 3. *Hercules*. 'He freed Greece from a number of monsters which infested the country, and destroyed both life and property. Theseus, Minos, and Romulus were the legendary founders of the Athenian, Cretan, and Roman states' (Selby).

52 7. *Was*. For 'were.' 'Ceres, Bacchus, Mercury, and Apollo were the givers of corn, wine, speech, and music' (Selby).

52 11. *Latitude*. Extent.

52 13. *Universal*. Cf. *Interpretation of Nature*: 'And if the ordinary ambitions of men lead them to seek the amplification of their own power in their countries, and a better ambition than that hath moved men to seek the amplification of the power of their own countries amongst other nations, better again and more worthy must that aspiring be which seeketh the amplification of the power and kingdom of mankind over the world.'

52 15. *Conning*. Ed. 1605 has 'Com.' (at end of line); edd. 1629, 1633, 'commonly.' *With a gentle air*. Cf. 1 Kings 19. 12 (Vulgate); cf. Job 4. 16.

52 21. *Feigned relation*. Philostratus Junior, *Imagines* 7.

52 25. *Accords*. Harmonies, concords.

53 4. *Kings*. Bacon has not forgotten James.

53 6. *Popular estates*. Democracies.

53 8. *Then should*, etc. Plato, *Republic* 473. 'A favorite saying of Antoninus Pius (Capitolinus, *Vita Ant. P.*, c. 27)' (Wright).

53 11. *Learned princes and governors*. Cf. 12 9 ff.

53 19. *Counselors*. Was Bacon speaking a word for himself?

53 21. *Men of experience*. Cf. 12 17.

53 25. *Princes*. Ed. 1605 has 'sciences.'

53 27. *The age*. A.D. 96 to 180. Cf. Gibbon, Chap. 3: 'If a man were called to fix the period in the history of the world during which

the condition of the human race was most happy and prosperous, he would, without hesitation, name that which elapsed from the death of Domitian to the accession of Commodus. The vast extent of the Roman Empire was governed by absolute power, under the guidance of virtue and wisdom. The armies were restrained by the firm but gentle hand of four successive emperors, whose characters and authority commanded involuntary respect. The forms of the civil administration were carefully preserved by Nerva, Trajan, Hadrian, and the Antonines, who delighted in the image of liberty, and were pleased with considering themselves the accountable ministers of the laws. Such princes deserved the honor of restoring the republic, had the Romans of their day been capable of enjoying a rational freedom. The labors of these monarchs were overpaid by the immense reward that inseparably waited on their success, by the honest pride of virtue, and by the exquisite delight of beholding the general happiness of which they were the authors.'

53 31. *For.* In.

53 33. *Model.* Epitome.

53 34. *In a dream.* Cf. Suetonius, *Domitian* 23.

54 5. *Vulgar.* Well known.

54 6. *Enfolded.* Condensed.

54 7. *And Apollo,* etc. Horace, *Od.* 2. 10. 19.

54 11. *Nerva.* A.D. 96-98. From here to 57 29 is much condensed in the Latin.

54 12. *Tacitus.* *Agricola* 3, inexactly quoted.

54 20. *Il.* 1. 42; the story is related by Dio Cassius (*Xiphilinus*) 68, p. 771.

54 21. *Trajan.* A.D. 98-117.

54 23. *He that receiveth,* etc. Matt. 10. 41.

55 3. *Legend.* Legendary.

55 5. *Envy.* Ill will.

55 6. *He is reported.* In John the Deacon's *Life of Gregory* 2. 44 (Migne 75. 104-6): 'In those same English churches they read how Gregory, walking through Trajan's forum, which that emperor had adorned with beautiful buildings, remembered and admired the judgment with which Trajan comforted the widow. This is the story, as it is handed down to us. Once upon a time, as Trajan was hastening with all speed to take part in a battle which was hourly expected, a certain widow stepped forward, and said in a voice choked with tears, "My innocent son has been

murdered, and you are the king; since you cannot restore him to me, I at least implore you to avenge the shedding of his blood at the hands of the law." Trajan replied that if he should return from the wars safe and sound, he would certainly avenge him to the fullest extent. Upon this the widow asked him, "But if you die in battle, who will perform this for me?" Trajan replied, "He who shall reign after me." "But of what advantage will it be to you that another executes righteousness for me?" answered the widow. "None whatever, to be sure," said Trajan. "Were it not better, then," said the widow, "that you yourself should do me this justice, and yourself receive the reward which you are now handing over to another?" At this, being moved at once by pity and the woman's arguments, Trajan alighted from his horse, and did not leave the spot until he had examined into the case and pronounced judgment in favor of the widow. They say that Gregory, still musing on the clemency of the imperial judge, arrived at length at the basilica of St. Peter, and there wept so long over the errors of this most humane of princes that, on the following night, an answer came to him that he had been heard on behalf of Trajan, upon condition that he should never again pour out supplications for any heathen.' Cf. Dante *Purg.* 10. 73-96; *Par.* 20. 44-47, 106-117; Langland, *Piers Plowman* 6857-6907. Ellis says the story 'seems first to have been mentioned by John Damascene in his discourse "De iis qui in fide dormierunt"; from whom St. Thomas Aquinas quotes it in his *Supplementary Questions* 71. 5. The hymn sung in the fourteenth century in the Cathedral of Mantua on St. Paul's day is another curious instance of the appreciation of heathen worth in the Middle Ages. It is there said of St. Paul:

Ad Maronis mausoleum
 Ductus fudit super eum
 Piæ rorem lacrymæ;
 "Quem te," inquit, "reddidissem
 Si te vivum invenissem,
 Poetarum maxime!"

See Schœll's *Histoire de la Littérature Romaine*.'

55 12. *Plinius*. Pliny the Younger (b. 61 or 62 A.D.). The allusion is to the famous letter (10. 97) written to Trajan when the author was legate pro prætor of Bithynia, probably in 112. An account of it and of the emperor's reply (10. 98) may be found in Smith's *Dict. Greek and Rom. Biog.*

55 14. *Adrian*. Or Hadrian (117-138). His name is one of the most illustrious in the imperial annals.

55 16. *Noted*. Dio Cassius 69. 3. *Comprehend all things*. He affected to be a poet, architect, painter, philosopher, orator, and musician. We shall not need to look long to discover a contemporary parallel.

55 17. *The worthiest things*. Cf. *Essay 11*, where Bacon, speaking to men in great place, says: 'Preserve likewise the rights of inferior places, and think it more honor to direct in chief than to be busy in all.'

55 19. *Philip of Macedon*. Cf. Plutarch, *On a Flatterer and a Friend* 27; *Symp.* 2. 1. 12.

55 28. *His picture*. 'It was not Hadrian, but Alexander Severus, who is said, in his life by Lampridius (c. 29), to have had, in the shrine where his *lares* were placed, figures of Apollonius, Christ, Abraham, Orpheus, and others. And again (c. 43), *Christo templum facere voluit, eumque inter deos recipere*' (Wright). Ellis remarks: 'Hadrian, however, did honor Apollonius, and is said to have thought of dedicating a temple to Christ, which . . . Alexander actually did.'

55 33. *Trajan's*. Ellis queries whether this should not be 'Trajan.'

56 2. *Emulation*. Envy.

56 3. *Parietaria*. Aurelius Victor, *Epitome* 41. 13.

56 5. *Glory and triumph*. Cf., for example, Trajan's column at Rome. However, in his reign cities were founded, colonies settled, fortresses and harbors constructed, and numerous roads, canals, and bridges were built throughout the empire.

56 6. *Perambulation*. 'He was the first emperor, almost the first Roman, who cared for any part of the empire except Italy.' In one of his trips the wall of Hadrian from the Tyne to the Solway was constructed (A.D. 119).

56 8. *Assignation*. Command.

56 11. *Policing*. Regulating.

56 15. *Antoninus*. The edd. of 1605, 1629, and 1633 have 'Antonius.' *Antoninus Pius*. A.D. 138-161. He was adopted by Hadrian, and in turn adopted Marcus Aurelius and Lucius Verus. The whole period of the reign of Antoninus is almost a blank in history—a blank caused by the suspension for a time of war, and violence, and crime. Never before and never after did the Roman

world enjoy for an equal time so large a measure of prosperous tranquility. All the thoughts and energies of a most sagacious and able prince were steadfastly dedicated to the attainment of one object—the happiness of his people. And assuredly never were noble exertions crowned with more ample success' (Smith, *Dict. Greek and Roman Biog.*).

56 18. *Untaxed. Uncensured. Cymini sector.* A hair-splitter, as we should now say. Cf. *Essay 50*: 'If his wit be not apt to distinguish or find differences, let him study the schoolmen, for they are *cymini sectores*.' Reynolds has a long note on the passage just quoted. He says: 'This phrase, "cymini sector," does not bear the sense which Bacon persistently puts upon it, in the text and elsewhere. It means 'a niggard.' He then adduces the Greek *κυμνοπρίστης* from Aristotle, *Nic. Ethics* 4. 1, comparing with it Theoc. 10. 54-55, adding that the term 'was certainly a name of reproach given to Antoninus Pius. Bacon finds its origin in the Emperor's patience and settled spirit to enter into the least and most exact differences of causes.' 'This,' says Reynolds, 'is probably based on a misinterpretation of the habit of *ἀκριβολογία*, which Dio Cassius ascribes to Antoninus—*ὅθεν αὐτὸν οἱ σκώπτοντες καὶ κυμνοπρίστην ἐκάλεον*, Bk. lxx. 3. It was, of course, the minute care of Antoninus about the expenditure of public money which exposed him to this sneer from the disappointed courtiers and would-be parasites who would have found their advantage in the profuse ways of a less conscientious public steward.' Reynolds then quotes a passage from Julius Capitolinus, *Life of Antoninus Pius* (sec. 7), to the effect that he abolished sinecures, and that he would say that nothing was more sordid, nay, more cruel, than for him to prey upon the state who was conferring nothing upon it by his labor.

56 29. *Half a Christian.* Acts 26. 28.

56 33. *Verus.* A.D. 161-9. Marcus Aurelius, as an act of mere grace, associated him with himself as a full participant in the imperial power after the death of Antoninus Pius, when Verus was 31 years old and he himself 40. Marcus was weak in constitution, and took more delight in philosophy and literary pursuits than in politics and war, while Lucius, young, active, and skilled in all manly exercises, was likely to be better fitted for the toils of a military life. In the Parthian war Verus was nominally commander-in-chief, though the campaign was really conducted by Avidius

Cassius and the other generals. The campaign terminated gloriously, although little credit was due to Verus. Twice he was unwillingly prevailed upon to advance as far as the Euphrates, and he made a journey to Ephesus to meet his bride on her arrival from Italy; but with these exceptions he passed his winters at Laodicea, and the rest of his time at Daphne or at Antioch, abandoning himself to gaming, drunkenness, and dissolute pleasures of every kind. He died suddenly of apoplexy at the age of 39. Ellis remarks: 'In the translation he says that Lucius, though not so good as his brother, was better than most of the other emperors.'

57 2. *His Virgil*. Spartianus, *Life of Ælius Verus*, Chap. 5.

57 3. *Marcus Aurelius*. A.D. 161-180. No monarch was ever more warmly and generally beloved by his subjects. In the year 174 he gained over the Quadi a famous victory, which was reputed miraculous. The Romans, who were suffering with thirst, are said to have been refreshed by a shower of rain, while their enemies were demoralized by a violent storm of hail. His *Meditations* is even now a widely read classic. More than a century after his decease, statues of him were to be found in many mansions among the household gods. The great, perhaps the only, indelible stain upon his memory is the severity with which he treated the Christians, but this may have been due to evil counselors of the Stoic sect, to which he belonged.

57 7. *In his book*. *Cæsars* 18.

57 13. *Graveled*. Puzzled.

57 15. *His patience towards his wife*. 'The deep sorrow expressed upon the death of Faustina, and the eagerness with which he sought to heap honors on the memory of a wicked woman and a faithless wife, who rivaled Messalina in shameless and promiscuous profligacy, if sincere, betokens a degree of carelessness and blindness almost incredible, if feigned, a strange combination of apathy and dissimulation' (Smith, *Dict.*).

57 18. *Commodus*. A.D. 180-192. *Caracalla*. A.D. 211-217.

57 19. *Helioabolutus*. A.D. 218-222.

57 20. *Alexander Severus*. A.D. 222-235.

57 22. *Let the name*, etc. Lampridius, *Life of Severus* 5-10.

57 25. *Style*. Title.

57 29. *Table*. Picture.

57 30. *But for a table*, etc. From here to 58 30 is omitted in the

Latin, 'no doubt,' as Ellis says, 'as one which would not be allowed at Rome, and might lead to the proscription of the book.' *Not presuming to speak.* As if he had not already done so, 3 13 ff., 17 35 ff.

57 32. *Queen Elizabeth.* See Bacon's memorial of her.

58 4. *Rare.* Ed. 1605 has 'grave.'

58 9. *Her.* Ed. 1605 has 'the.'

58 13. *Regiment.* Rule.

58 18. *Sortable.* Suitable.

58 21. *Moderation of discontents.* Removal of grievances.

58 28. *To.* As regards.

59 2. *Mentioned before.* 11 18 ff.

59 8. *Bred and taught.* Speaking of Philip of Macedon, Plutarch says (*Alex.* 8. 1): 'He saw that his education was a matter of too great importance to be trusted to the ordinary masters in music and the common circle of sciences, and that his genius (to use the expression of Sophocles) required

The rudder's guidance and the curb's restraint.

He therefore sent for Aristotle, the most celebrated and learned of all the philosophers; and the reward he gave him for forming his son was not only honorable, but remarkable for its propriety. He had formerly dismantled the city of Stagira, where that philosopher was born, and now he rebuilt it, and re-established the inhabitants, who had either fled or been reduced to slavery. He also prepared a lawn, called Mieza, for their studies and literary conversations, where they still show us Aristotle's stone, seats, and shady walks.'

59 9. *Who dedicated,* etc. Plutarch, Bacon's almost exclusive authority here, does not mention this.

59 10. *Callisthenes.* About 365-328 B.C. A cousin of Alexander's, and the historian of his expedition against Persia.

59 15. *Achilles.* Plutarch, *Alex.* 15. 3: 'As soon as he landed he went up to Ilium, where he sacrificed to Minerva, and offered libations to the heroes. He also anointed the pillar upon Achilles' tomb with oil, and ran round it with his friends, naked, according to the custom that obtains; after which he put a crown upon it, declaring he thought that hero extremely happy in having found a faithful friend while he lived, and after his death an excellent herald to set forth his praise.'

59 18. *Cabinet of Darius.* Plutarch, *Alex.* 26. 1; Pliny, *H. N.* 7. 30.

59 21. *His letter to Aristotle.* Plutarch, *Alex.* 7. 4: 'Alexander gained from him not only moral and political knowledge, but was also instructed in those more secret and profound branches of science which they call acroamatic and epoptic, and which they did not communicate to every common scholar. For when Alexander was in Asia, and received information that Aristotle had published some books, in which those points were discussed, he wrote him a letter in behalf of philosophy, in which he blamed the course he had taken. The following is a copy of it:—

"Alexander to Aristotle, prosperity. You did wrong in publishing the acroamatic parts of science. In what shall we differ from others, if the sublimer knowledge which we gained from you be made common to all the world? For my part, I had rather excel the bulk of mankind in the superior parts of learning than in the extent of power and dominion. Farewell."

59 28. *Science.* Learning.

59 30–60 3. Omitted in the Latin.

59 30. *Scholastical.* Pedantic.

60 1. *Any.* James.

60 4. *Observe then.* In the Latin the matter from here to 62 31 is classed under the heads of (1) morals, (2) physics, (3) poetry, (4) dialectic, (5) rhetoric, (6) politics. *Diogenes.* Plutarch, *Alex.* 14. 2: 'A general assembly of the Greeks being held at the Isthmus of Corinth, they came to a resolution to send their quotas with Alexander against the Persians, and he was unanimously elected captain-general. Many statesmen and philosophers came to congratulate him on the occasion, and he hoped that Diogenes of Sinope, who then lived at Corinth, would be of the number. Finding, however, that he made but little account of Alexander, and that he preferred the enjoyment of his leisure in a part of the suburbs called Cranium, he went to see him. Diogenes happened to be lying in the sun, and at the approach of so many people he raised himself up a little, and fixed his eyes upon Alexander. The king addressed him in an obliging manner, and asked him, "If there was anything he could serve him in?" "Only stand a little out of my sunshine," said Diogenes. Alexander, we are told, was struck with such surprise at finding himself so little regarded, and saw something so great in that carelessness, that, while his courtiers were ridiculing the philosopher as a monster, he said, "If I were not Alexander I should wish to be Diogenes."'

60 5. *State.* Solution.

60 11. *Seneca.* On Benefits 5. 4. 4.

60 16. *That speech.* Plutarch, *On a Flatterer and a Friend* 25; *Alex.* 22. 2. In the latter place he explains, 'For he considered both weariness and pleasure as the natural effects of our weakness.' The Latin adds, 'Since deficiency and superfluity, which are expressed by weariness and intemperance, are, as it were, earnest of mortality.'

60 20. *Democritus.* Cf. note on 37 1.

60 22. *That speech.* Plutarch, *Alex.* 28. 1; Seneca, *Mor. Ep.* 6. 7. 12.

60 26. *Homer.* *Il.* 5. 340.

60 28. *Reprehension of logic.* The Latin has, 'Skill in turning an objector's arguments against himself.'

60 29. *Cassander.* Plutarch, *Alex.* 74: 'He was most afraid of Antipater and his sons, one of whom, named Iolaus, was his cup-bearer; the other, named Cassander, was lately arrived from Macedonia, and happening to see some barbarians prostrate themselves before the king, like a man accustomed only to the Grecian manners, and a stranger to such a sight, he burst out into a loud laugh. Alexander, enraged at the affront, seized him by the hair, and with both hands dashed his head against the wall. Cassander afterwards attempted to vindicate his father against his accusers; which greatly irritated the king. "What is this talk of thine?" said he, "Dost thou think that men who had suffered no injury would come so far to bring a false charge?" "Their coming so far," replied Cassander, "is an argument that the charge is false, because they are at a distance from those who are able to contradict them." At this Alexander smiled, and said, "These are some of Aristotle's sophisms, which make equally for either side of the question; but be assured I will make you repent it if these men have had the least injustice done them." Cassander (about 354-297 B.C.) was king of Macedonia, a cruel and unscrupulous man.

61 1. *Matter.* Point.

61 7. *Callisthenes.* See note on 59 10.

61 12. *Purpose.* Proposition. Callisthenes was to extemporize.

61 18. *Turn your style.* Erase, from Lat. *vertere stylum*, turn your pen, which had a flat end for erasure. Plutarch says (*Alex.* 53): "But show us now," continued he, "the power of your rhetoric in speaking against the Macedonians, that they may see their faults,

and amend." Then the orator took the other side, and spoke with equal fluency against the encroachments and other faults of the Macedonians, as well as against the divisions among the Greeks, which he showed to be the only cause of the great increase of Philip's power ; concluding with these words,

Amidst sedition's waves
The worst of mortals may emerge to honor.

By this he drew upon himself the implacable hatred of the Macedonians, and Alexander said, "He gave not, in this case, a specimen of his eloquence, but of his malevolence."

61 22. *Despite*. Spite.

61 24. *Translation*. The Lat. *translatio* means 'metaphor.'

61 25. *Antipater*. Died B.C. 320. Cf. 60 30. Ellis says : 'Antipater was not praised for keeping to the Macedonian dress, but generally for the severity of his way of life. Bacon was probably misled by Erasmus [*Apoth.* 4. 17], who took the story from Plutarch without rightly understanding it. Alexander compared Antipater to a λευκοπαρύφος (or white-striped) garment, which on the inside, the παρύφη or clavus being an external appendage, showed no trace of white, but was purple throughout. Erasmus confounded λευκοπαρύφος [the name of the garment] with λεύκος [the Greek word for 'white'], and apparently supposed the remark to refer to Antipater's dress.' Holland has translated from Plutarch (*Apoth.*) as follows : 'When some there were who much praised unto him the plainness and homely simplicity of Antipater, saying that he lived an austere and hard life, without all superfluities and delicious pleasures whatsoever : "Well," quoth he, "Antipater wears in outward show his apparel with a plain white welt or guard, but he is within all purple, I warrant you, and as red as scarlet (*'Ἀντίπατρος λευκοπαρύφος ἐστὶ, τὰ δ' ἐνδον ὀλοπόρφυρος*)."'

61 31. *That other*. Plutarch, *Alex.* 31. 5. *Parmenio*. A Macedonian general, the oldest and most attached of Alexander's friends (about 400-330 B.C.), and his second in command.

62 7. *Two friends*. Plutarch, *Alex.* 47. 3 : 'Hephæstion and Craterus were his two favorites. The former praised the Persian fashions, and dressed as he did ; the latter adhered to the customs of his own country. He therefore employed Hephæstion in his transactions with the barbarians, and Craterus to signify his pleasure to the Greeks and Macedonians. The one had more of

his love, the other more of his esteem. He was persuaded, indeed, and he often said, "Hephæstion loved Alexander, and Craterus the king."

62 12. *Taxation. Censure.*

62 16. *Parmenio had said.* Plutarch, *Alex.* 29. 3. Longinus cites the answer of Alexander as illustrating the principle that sublime thoughts belong properly to the loftiest minds.

62 19. *That quick and acute reply.* Plutarch, *Alex.* 15. 2; *Fortune of Alexander*, p. 342; *Apoth.* Perdiccas was the one who asked the question, though in the *Apothegms* he says Parmenio. Ellis says: 'The *ἐλπίδας* in Alexander's reply is rather "that which I hope for" than "hope"—"mes espérances," not "l'espoir" in the abstract.' Selby explains: 'All the wealth which I expect to get by my conquests.'

62 25. *Cæsar's portion.* Plutarch, *Cæs.* 11. Crassus became surety to Cæsar's creditors for 880 talents before he was allowed to take the prætorship in Spain.

62 28. *Henry Duke of Guise.* A.D. 1550–1588. Uncle of Mary Queen of Scots, and leading spirit in the massacre of St. Bartholomew. Bacon had heard the story when he was in France in 1576, and mentions it in his *Apology concerning the Earl of Essex*. He explains: 'Meaning that he had left himself nothing, but only had bound numbers of persons to him.'

62 32. From here to 'prince,' 63 1, is omitted in the Latin.

63 12. *Real passages.* 'Either the actual occurrences or the truthful descriptions of them' (Wright). *Lively images.* Vivid pictures.

63 17. *De Analogia.* Suetonius, *Jul. Cæs.* 56; Quintil. 1. 7. 34. This work, which consisted of two books, is lost. It is again referred to by Bacon, *De Augm.* 6. 1, in which passage he is doubtful whether it treated of what we should call philosophical grammar, and not rather of elegance and purity of language. It is quoted by Cicero (*Brutus* 72), under the title *De Ratione Latine loquendi*, and in the first book Cæsar is said to have laid down as a maxim 'The source of eloquence is the proper choice of words.' Aulus Gellius (1. 10) quotes another precept from the same book, 'An unusual word is to be avoided like a rock' (Wright). Ellis says: 'The truth is that, though Bacon speaks of the work in question as if he were familiar with its contents, very little is known about them.'

63 18. *He did labor.* The Latin has : 'Wherein he did labor to make conventional speech to become correct speech ; he wished to substitute an appropriate and correct habit of speech for careless speech, and to make words, which are the images of things, suit the things themselves, instead of obeying simply the will of the multitude.'

63 22. *Life of reason.* Cf. 30 9.

63 24. *Reformed computation.* Suetonius, *Jul. Cæs.* 40 ; Plutarch, *Cæs.* 59 : 'He completed the regulation of the calendar, and corrected the erroneous computation of time, agreeably to a plan which he had ingeniously contrived, and which proved of the greatest utility. For it was not only in ancient times that the Roman months so ill agreed with the revolution of the year that the festivals and days of sacrifice, by little and little, fell back into seasons quite opposite to those of their institution, but even in the time of Cæsar, when the solar year was made use of, the generality lived in perfect ignorance of the matter ; and the priests, who were the only persons that knew anything about it, used to add all at once, and when nobody expected it, an intercalary month, called *Mercedonius*, of which Numa was the inventor. That remedy, however, proved much too weak, and was far from operating extensively enough to correct the great miscomputations of time, as we have observed in that prince's life. Cæsar, having proposed the question to the most able philosophers and mathematicians, published, upon principles already verified, a new and more exact regulation, which the Romans still go by, and by that means are nearer the truth than other nations with respect to the difference between the sun's revolution and that of the twelve months. Yet this useful invention furnished matter of ridicule to the envious, and to those who could but ill brook his power. For Cicero (if I mistake not), when some one happened to say, "Lyra will rise to-morrow," answered, "Undoubtedly ; there is an edict for it" : as if the calendar was forced upon them, as well as other things.'

63 28. *Anti-Cato.* Suetonius, *Jul. Cæs.* 56 ; cf. Plutarch, *Cæs.* 54. 3 ; Cicero, *Letters to Atticus* 12. 40. 41 ; 13. 50 ; Aulus Gellius 4. 16 ; 13. 9. Plutarch says : 'Cicero had written an encomium upon Cato, and he gave the name of *Cato* to the book. It was highly esteemed by many of the Romans, as might be expected, as well from the superior eloquence of the author as the dignity of the subject. Cæsar was piqued at the success of a work which, in

praising a man who had killed himself to avoid falling into his hands, he thought insinuated something to the disadvantage of his character. He therefore wrote an answer to it, which he called *Anti-Cato*, and which contained a variety of charges against that great man.' Cf. note on 14 32.

63 33. *Apothegms*. These Apothegms (Cic. *ad Fam.* 9. 16), or *Dicta Collectanea*, as they are called by Suetonius (*Jul. Cæs.* 56), were among the works which Augustus suppressed.

64 1. *More honor*. Note that Bacon collected Apothegms.

64 2. *Himself*. Of himself. *Tables*. Waxen tablets.

64 8. *The words*, etc. Eccl. 12. 11.

64 13. *A mutiny*. Suetonius, *Jul. Cæs.* 70; cf. Appian, *Civil Wars* 2. 93.

64 18. *Cashiered*. Dismissed, though of course not in disgrace.

64 19. *Expostulation*. Demand.

64 27. *Second speech*. Suetonius, *Jul. Cæs.* 79; Appian, *Civil Wars* 2. 108.

65 6. *Till this day*. Cf. the titles, *Cæsar*, *Kaiser*.

65 8. *Surname with the Romans*. Cf. Horace, *Sat.* 1. 7. 1; Bacon, *Apothegm* 186.

65 10. *Last speech*. Plutarch, *Cæs.* 35. 4: 'As Metullus the tribune opposed his taking money out of the public treasury, and alleged some laws against it, Cæsar said, "Arms and laws do not flourish together. If you are not pleased at what I am about, you have nothing to do but to withdraw: indeed, war will not bear much liberty of speech. When I say this, I am departing from my own right: for you and all, whom I have found exciting a spirit of faction against me, are at my disposal." Saying this, he approached the doors of the treasury, and as the keys were not produced, he sent for workmen to break them open. Metullus opposed him again, and some praised his firmness; but Cæsar, raising his voice, threatened to put him to death if he gave him any farther trouble. "And, young man," said he, "you are not ignorant that this is harder for me to say than to do." Metullus, terrified with his menace, retired, and afterwards Cæsar was easily and readily supplied with everything necessary for the war.'

65 11. *After war declared*. A Latin idiom. The war was that against Pompey. The issue of this war was that Cæsar obtained supreme power in Rome.

65 16. *Taking himself up*. Checking himself.

65 25. *Strange resolution.* Suetonius, *Jul. Cas.* 77. *Lucius Sylla.* Cf. my edition of Sidney's *Defense of Poesy* 21. 31. 'Lucius Sylla was elected perpetual dictator B.C. 82, but resigned power B.C. 79. With this passage cf. the 15th Essay: "I have noted that some witty and sharp speeches which have fallen from princes have given fire to seditions. Cæsar did himself infinite hurt in that speech: *Sylla knew nothing of letters, and therefore could not dictate*; for it did utterly cut off that hope which men had entertained, that he would at one time or other give over his dictatorship." There is a play on the double meaning of *dictate*, which means both to read out and to wield the power of a dictator. The word to *skill* in the sense of *to understand* occurs also in the English Bible' (Selby).

65 35. *Xenophon.* Greek historian and moralist (born 444(?) or 434(?) B.C.).

66 1. *Expedition.* B.C. 401.

66 3. *Never had seen the wars before.* But Diogenes Laertius and Strabo say that he was at the battle of Delium (424 B.C.).

66 7. *Falinus.* Rather, Phalinus. The story is told by Xenophon, *Anabasis* 2. 1. 7-13.

66 15. *Xenophon.* Some editions read Theopompus; Diodorus (14, p. 409) attributes the speech to Proxenus; but Stephen's edition of 1561, which Bacon may have used, has Xenophon.

66 17. *Virtue.* Valor.

66 21. *It is pretty that you say.* You express yourself not without grace.

66 22. *Abused.* Deceived. The original has, 'out of your senses.'

66 31. *Jason the Thessalian.* Dictator of Thessaly; assassinated B.C. 379.

66 32. *Agésilas.* See note on 21 9. In 396 he crossed into Asia, and in the next year overpowered the two Satraps, Tissaphernes and Pharnabazus; in the spring of 394 he was encamped in the plain of Thebe, preparing to advance into the heart of the empire, when a message arrived to summon him to the war at home. Wright compares Bacon's treatise, *Of the True Greatness of Britain* (*Works*, 7. 50): 'And those that are conversant attentively in the histories of those times shall find that this purchase which Alexander made and compassed was offered by fortune twice before to others, though by accident they went not through with it: namely,

to Agesilaus, and Jason of Thessaly. For Agesilaus, after he had made himself master of most of the low provinces of Asia, and had both design and commission to invade the higher countries, was diverted and called home upon a war excited against his country by the states of Athens and Thebes, being incensed by their orators and counselors, which were bribed and corrupted from Persia, as Agesilaus himself avouched pleasantly when he said that an hundred thousand archers of the kings of Persia had driven him home, understanding it because an archer was the stamp upon the Persian coin of gold. And Jason of Thessaly, being a man born to no greatness, but one that made a fortune of himself, and had obtained by his own vivacity of spirit, joined with the opportunities of time, a great army compounded of voluntaries and adventurers, to the terror of all Grecia, that continually expected where that cloud would fall, disclosed himself in the end that his design was for an expedition into Persia (the same which Alexander not many years after achieved), wherein he was interrupted by a private conspiracy against his life, which took effect.'

66 34. *Ground.* Strength.

67 3-4. Ovid, *Pontic Epistles* 2. 9. 47. Bacon has changed *Scite quod to Scilicet*. Cf. 16 26 ff., 52 28 ff. Ellis notes that the thought is from Theophrastus.

67 10. *A contrary effect*. Cf. Pope, *Essay on Criticism* 215-8:

A little learning is a dangerous thing;
 Drink deep, or taste not the Pierian spring.
 There shallow draughts intoxicate the brain,
 And drinking largely sobers us again.

Warburton assumed that Pope borrowed the thought from our passage.

67 12. *Acquainting.* Accustoming.

67 14. *But examined and tried.* A Latin idiom.

67 19. *Thoroughly.* Thoroughly. Cf. Matt. 3. 12, etc.

67 20. Eccl. 1. 9.

67 21. *Puppets.* Marionettes.

67 22. *Adviseth.* Considers. The Latin has: 'No one will be much astonished at the play of puppets, who puts his head behind the curtain, and sees the contrivances and the threads by which the puppets are moved.'

67 23. *Alexander the Great*. Plutarch, *Ages*. 15. 6: 'Alexander made a jest of the information he received, that Agis had fought a battle with Antipater. He said: "It seems, my friends, that while we were conquering Darius here, there was a combat of mice in Arcadia."'

67 26. *Services*. Engagements.

67 27. *Passage*. Ford. The Latin has 'bridge.'

67 29. *Advertised*. Informed.

68 3. *An ant-hill*. The thought is from Seneca, *Nat. Quest.* 1. Prol. 10. Cf. *Essay* 13: 'Goodness I call the habit, and goodness of nature the inclination. This, of all virtues and dignities of the mind, is the greatest, being the character of the Deity; and without it man is a busy, mischievous, wretched thing, no better than a kind of vermin. Goodness answers to the theological virtue charity, and admits no excess, but error.'

68 5. *Fro*. From.

68 8. *Manners*. Character.

68 11. *Epictetus*. Cf. Epictetus, *Enchiridion* 8 and 33; Simplicius, *Comm. on Epict.*, Chaps. 8 and 33; and Plutarch, *Consol. to Apoll.* The dramatic form of the story is apparently Bacon's own (Wright). Epictetus was a Stoic philosopher, born in Phrygia about 60 A.D. His *Enchiridion* has been rendered into English by T. W. Higginson.

68 19-22. Virgil, *Georg.* 2. 490-2.

68 23. *Particular remedies*. Cf. *Essay* 1.

68 28. *Exulcerations*. Ulcers.

68 29. *The sum of the whole matter*. Cf. Eccl. 12. 13.

69 6. *To feel oneself*, etc. In the *Promus* Bacon has this form: *Suavissima vita indies meliorem fieri*. It appears to be derived from Xenophon, *Memor.* 1. 6. 8, or perhaps rather Aristotle, *Ethics* 2. 3. 1 (1104 b. 4 ff.). Cf. Dante, *Par.* 18. 58 ff.

69 16. *Certain it is*. Selby remarks: 'Bacon means to say that just as knowledge produces goodness, so error or ignorance produces vice. What Bacon says here is partly, though not altogether, true. In virtue there is both an intellectual and a moral element—the perception of what is right, and the will to do it. Men do sometimes deliberately what they know to be wrong, but vicious actions may, perhaps, more often be attributed either to ignorance of what is right, or to a want of self-control. Cf. *Essay* 38.'

69 21. *Commandment*. Authority.

69 26. *Herdsmen*. Wright has *herdmen*. *Commandment over children*. Cf. 20 13 ff.

69 31. *Generosity*. Nobleness.

70 8-10. *Georg.* 4. 561-2.

70 16. *Estate*. State.

70 26. *Revelation*. Rev. 2. 24.

71 2. *Well noted*. 'A saying of Hiero's, recorded by Plutarch (*Reg. et Imp. Apoph.*) is perhaps what Bacon was thinking of. Xenophanes complained that his poverty did not allow him to keep two servants. "How is that?" said Hiero; "Homer, whom you worry with abuse, dead as he is, supports more than ten thousand"' (Wright).

71 9. *Carried away*. Obtained.

71 14. *Exceed the pleasures of the senses*. Wright reads *sense for senses*, and says: 'So in the Errata to ed. 1605. The original editions have "exceed the senses." The Lat. is *oblectamenta sensuum excedent*. The true reading is probably "exceed the pleasures of the senses."'

71 20. *Verdure*. Freshness.

71 21. *Deceits of pleasure*. Unreal pleasures, shadows of pleasure.

71 23. *Ambitious princes turn melancholy*. Selby says: 'Alexander sighed for new worlds to conquer, and Charles V. resigned the crown of Spain to his son and retired into a monastery. Cf. *Essay* 19: "We see also that kings that have been fortunate conquerors in their first years, it being not possible for them to go forward infinitely, but that they must have some check or arrest in their fortunes, turn in their latter years to be superstitious and melancholy, as did Alexander the Great, Dioclesian, and, in our memory, Charles the Fifth, and others. For he that is used to go forward, and findeth a stop, falleth out of his own favor, and is not the thing he was."'

71 27. *Fallacy*. Deception.

71 29. *Lucretius*. 97(?)–53 B.C. His great object was to free mankind from the fear of death, arising, as he thought, from superstition inherent in the popular religion. He has remained the favorite poet of rationalism to this day. Bacon again employs the quotation in *Essay* 1.

71 31 ff. *Lucr.* 2. 1–10. Selby quotes a parallel from the Indian *Mahabharata*:

As men who climb a hill behold
 The plain beneath them all unrolled,
 And thence with searching eye survey
 The crowds that pass along the way,
 So those on wisdom's mount who stand
 A lofty vantage ground command.
 They thence can scan the world below
 Immersed in error, sin, and woe;
 Can mark how mortals vainly grieve,
 The true reject, the false receive,
 The good forsake, the bad embrace,
 The substance flee, the shadows chase.
 But none who have not gained that height
 Can good and ill discern aright.

72 16. *Celebration.* Celebrity.

72 22. *Infinite.* Innumerable.

72 23. *Decayed.* Brought to decay.

72 24. *Statuaes.* The old spelling.

72 27. *Leese of.* Lose something of.

72 29. *Wrong.* Injury.

72 31. *They generate.* Cf. Milton's *Areopagitica*: 'Books are not absolutely dead things, but do contain a potency of life in them to be as active as that soul was whose progeny they are; nay, they do preserve as in a vial the purest efficacy and extraction of that living intellect that bred them.' *Still.* Ever.

73 6. *Some of the philosophers.* 'Bacon is referring here to the doctrine of Aristotle and his followers. Plato had taught the immortality of the individual soul. This Aristotle denied. All the lower functions of the soul, he said, are destroyed by death; but the highest function of the soul, viz., the creative intellect, is indestructible. Therefore though after death the individual ceases to exist, yet the creative intellect is not destroyed, but is resumed into the universal mind' (Selby).

73 12. *Affection.* Wright thinks the true reading is probably *affections*; cf. l. 15.

73 17. *Disclaim in.* Abjure.

73 19. *Probation.* Proof.

73 20. *In the beginning.* Cf. 44 8 ff., 51 14 ff.

73 26. *Æsop's cock.* Phædrus 3. 12. Bacon adduces it again in *Essay 13*, and in *The True Greatness of Britain*. Wright compares Commynes, Bk. 5, chap. 2.

73 27. *Midas*. Ovid, *Met.* 11. 153 ff.

73 30. *Paris*. Cf. Euripides, *Trojan Women* 924 ff., and see Tennyson's *Oenone*.

73 31. *Agrippina*. The mother of Nero, Agrippina II, is meant. Tacitus, *Annals* 14. 9: *Occidat dum imperet*. On this awful sentence De Quincey remarks (*Cæsars*, Chap. 5): 'There is a remarkable story told of Agrippina, that, upon some occasions, when a wizard announced to her, as truths which he had read in the heavens, the two fatal necessities impending over her son,—one that he should ascend to empire, the other that he should murder herself, she replied in these stern and memorable words—*Occidat dum imperet*. Upon which a continental writer comments thus: "Never before or since have three such words issued from the lips of woman"; and in truth, one knows not which most to abominate or admire—the aspiring princess or the loving mother. Meantime, in these few words lies naked to the day, in its whole hideous deformity, the very essence of Romanism and the imperial power, and one might here consider the mother of Nero as the impersonation of that monstrous condition.'

73 33. *Ulysses*. Homer, *Od.* 5. 218; Plutarch, *Gryll.* 1; Cicero, *De Oratore* 1. 44. Cf. *Essay* 8.

74 6. *Wisdom is justified of her children*. Matt. 11. 19.

INDEX OF PROPER NAMES.

- | | |
|--|--|
| <p>Abel 46 5.
 Achilles 59 15.
 Adonis 30 26.
 Adrian, see Hadrian.
 Ælius Verus 56 33.
 Æschines 16 11.
 Æsop 36 14, 73 26.
 Agesilaus 21 9, 66 32.
 Agrippa (Herod Agrippa II) 56 28.
 Agrippina 73 31.
 Albertus Magnus 35 11.
 Alexander the Great 11 18, 38 29,
 59 1 ff., 60 10 ff., 61 2 ff., 62 8 ff.,
 63 2, 64 6, 65 31, 66 33, 67 23,
 72 25.
 Alexander Severus 13 6, 57 20.
 Antipater 60 30, 11 25 ff.
 Antoninus 57 17 ff., 59 35.
 Antoninus Pius 56 15.
 Anytus 11 3.
 Apollo 52 7, 54 7, 73 28.
 Apollonius 55 28.
 Archimedes 37 2.
 Aristippus 26 30 ff.
 Aristotle 11 19, 31 23, 35 16, 37 1 ff.,
 40 31, 41 8, 59 8 ff., 60 20, 61 3,
 63 3.
 Artaxerxes 66 2.
 Ascham 29 21.
 Atalanta 43 7.
 Atticus 14 27, 22 12.
 Augustus Cæsar 2 23, 57 22, 70 6,
 71 4.</p> | <p>Aurelius, M., see Marcus Aurelius
 (Antoninus).
 Bacchus 52 7.
 Brutus 20 10.
 Cæsar, see Augustus Cæsar, Julius
 Cæsar.
 Cæsars 17 12.
 Cain 46 6.
 Callisthenes 59 10, 61 7 ff.
 Car 29 21.
 Caracalla 57 18.
 Cardan 35 11.
 Carneades 10 22.
 Cassander 60 29.
 Cassius 20 9.
 Castor 18 1.
 Cato the Censor 10 21, 16 33.
 Cato the Younger 14 32, 21 24,
 22 11 ff.
 Ceres 52 7.
 Cicero 11 20, 14 26, 17 16, 21 24,
 22 10 ff., 29 19 ff., 30 14, 41 5, 63 31.
 Clement VII 14 24.
 Columbus 39 3.
 Commodus 53 29, 57 18.
 Constantine the Great 56 2.
 Craterus 62 7.
 Cyrus the Younger 66 2 ff., 72 25.
 Darius 59 18, 62 15.
 Democritus 37 1, 60 20.</p> |
|--|--|

- Demosthenes 16 10, 21 24, 23 3, 29 22.
 Diogenes 26 24, 60 4 ff.
 Diomedes 60 27.
 Dionysius (of Syracuse) 26 30 ff.,
 27 2, 33 17.
 Dionysius the Areopagite 44 35.
 Domitian 53 28 ff.
 Du Bartas 26 10.

 Elizabeth, Queen 17 35, 57 32.
 Epaminondas 11 23.
 Epictetus 68 11.
 Erasmus 29 24.
 Euclid 37 1, 39 5.

 Falinus (properly Phalinus) 66 7 ff.
 Faustina 26 11.

 Gilbert 41 3.
 Gordian 13 4.
 Gregory the Great 49 30, 55 4.
 Guicciardini 14 25.

 Hadrian 27 5, 56 5.
 Hecuba 26 11.
 Helena 26 11.
 Heliogabalus 57 19.
 Henry, Duke of Guise 62 28.
 Hephæstion 62 7.
 Heraclitus 8 18, 40 17.
 Hercules 30 25 ff., 52 3.
 Hermes (Trismegistus) 4 1.
 Hermogenes 29 19.
 Hippocrates 37 1.
 Homer 54 19, 59 16 ff., 60 26, 71 3,
 72 20.

 Ixion 14 31.

 James I (addressed as Your Majesty) 1 1 ff., 2 3 ff., 3 2 ff., 4 4 ff.,
 17 35, 57 31.
 Jason the Thessalian 66 31.
 Job 9 12, 47 12.
 Julian the Apostate 49 24, 57 7.
- Julius Cæsar 3 19, 11 19, 19 9, 22 7,
 59 2 ff., 62 25, 63 4, 64 20 ff., 65 4 ff.,
 71 4, 72 25.
 Junia 20 10.
 Jupiter 9 31, 38 19.
 Jupiter (planet) 43 1.

 Livy 17 14, 19 1, 38 31.
 Lucian 26 2, 38 18.
 Lucius Commodus Verus 56 33.
 Lucretia 26 12.
 Lucretius 71 29.
 Luther 28 6.

 Machiavelli 18 22.
 Marcus Aurelius (Antoninus) 3 21,
 57 3 ff.
 Martial 57 2.
 Mercury 52 7.
 Metellus 65 11 ff.
 Midas 73 27.
 Minos 52 3.
 Misitheus 13 5.
 Moses 46 21 ff.
 Muses 44 2, 73 28.

 Nero 13 2, 23 9.
 Nerva 54 11 ff.

 Orpheus 52 22.
 Osorius 29 17.

 Pan 73 29.
 Paris 73 30.
 Parmenio 61 31, 62 16 ff.
 Paul 5 14, 7 23, 31 4, 49 18, 56 29.
 Phalinus, see Falinus.
 Pharnabazus 21 10.
 Philip of Macedon 55 19.
 Phocion 14 29.
 Pius V 13 11 ff.
 Plato 2 4, 8 31, 22 2, 25 22, 30 15,
 37 1, 40 30, 46 25.
 Pliny the Elder 35 11.
 Pliny the Younger 55 12.

- | | |
|---|--|
| <p>Plutarch 30 15, 58 1.
 Pollux 18 1.
 Proclus 40 32.
 Proxenus 66 6.
 Pygmalion 30 6.

 Romulus 52 3.

 Saturn (planet) 42 35.
 Scylla 33 2.
 Seneca 13 2, 15 27, 21 25, 23 8, 30 15,
 32 20, 60 11.
 Severus, see Alexander Severus.
 Sextus V 13 11.
 Silenus 57 10 ff.
 Sixtus, see Sextus.
 Socrates 11 4, 17 17 ff., 25 23, 41 31,
 43 10, 66 1.
 Solomon 5 9, 6 2, 7 20, 8 1, 19 20,
 48 8 ff., 64 7.</p> | <p>Solon 21 32, 46 26.
 Sturm 29 18.
 Sylla 65 25 ff., 71 4.

 Tacitus 2 23, 20 11, 34 19, 54 12.
 Themistocles 25 14.
 Theseus 52 3.
 Trajan 54 17 ff., 55 1 ff., 56 1.

 Ulysses 73 33.

 Varro 17 15.
 Velleius 41 29.
 Venus 30 26, 60 26.
 Verus, see Ælius Verus, Lucius
 Commodus Verus.
 Virgil 10 30, 17 6 ff., 57 2, 62 34,
 68 16, 70 5.
 Xenophon 11 24, 30 14, 65 35, 66 2 ff.</p> |
|---|--|

ANNOUNCEMENTS

BOOKS ON ENGLISH LITERATURE

	<i>List price</i>	<i>Mailing price</i>
Alexander's Introduction to the Poetry of Robert Browning	\$1.00	\$1.10
Athenæum Press Series: 26 volumes now ready.		
Baldwin's Inflections and Syntax of Malory's Morte d'Arthur	1.40	1.50
Bellamy's Twelve English Poets . . . . .	.75	.85
Browne's Shakspeare's Versification . . . . .	.25	
Corson's Primer of English Verse	1.00	1.10
Emery's Notes on English Literature	1.00	1.10
Garnett's Selections in English Prose from Elizabeth to Victoria	1.50	1.65
Gayley's Classic Myths in English Literature	1.50	1.65
Gayley and Scott's Literary Criticism	1.25	1.40
Gummere's Handbook of Poetics	1.00	1.10
Hudson's Classical English Reader	1.00	1.10
Hudson's Essays on English, Studies in Shakespeare, etc.	.25	.27
Hudson's Life, Art, and Characters of Shakespeare. 2 vols. retail, cloth, \$4.00; half morocco, \$8.00		
Hudson's Text-book of Poetry	1.25	1.40
Hudson's Text-book of Prose	1.25	1.40
Kent's Shakespeare Note-Book . . . . .	.60	.70
Lewis' Beginnings of English Literature . . . . .	.90	.95
Minto's Characteristics of the English Poets	1.50	1.65
Minto's Manual of English Prose Literature	1.50	1.65
Painter's Elementary Guide to Literary Criticism . . . . .	.90	.95
Phelps' Beginnings of the English Romantic Movement	1.00	1.10
Saintsbury's Loci Critici. Passages Illustrative of Critical Theory and Practice from Aristotle Downward	1.50	1.65
Sherman's Analytics of Literature	1.25	1.40
Smith's Synopsis of English and American Literature . . . . .	.80	.90
Standard English Classics: 31 volumes now ready.		
Thayer's Best Elizabethan Plays	1.25	1.40
White's Philosophy of American Literature . . . . .	.30	.35
White's Philosophy of English Literature	1.00	1.10
Winchester's Five Short Courses of Reading in English Literature . . . . .	.40	.45

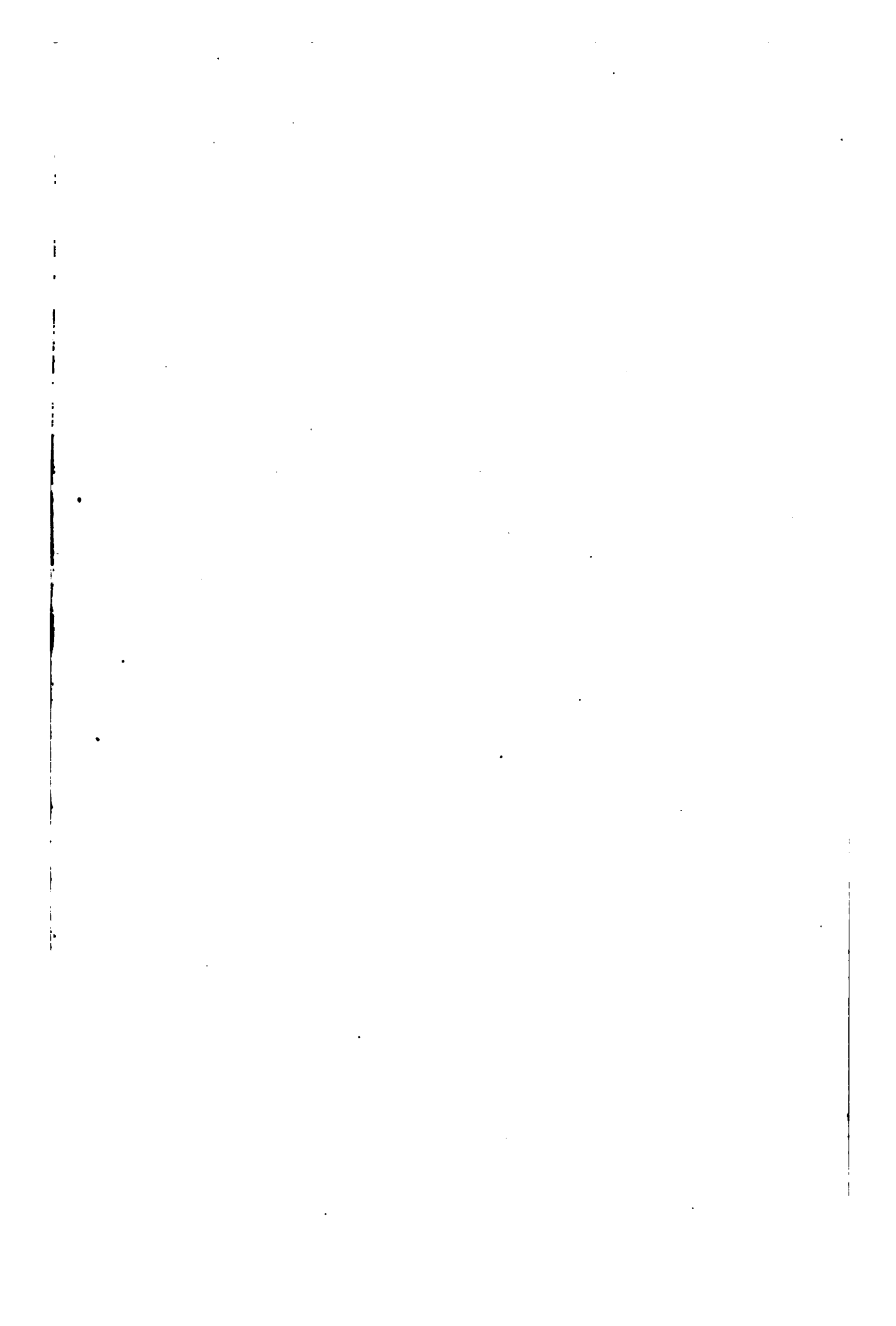
GINN & COMPANY PUBLISHERS

THE ATHENÆUM PRESS SERIES

Issued under the general editorship of
 Professor GEORGE LYMAN KITTREDGE of Harvard University, and
 Professor C. T. WINCHESTER of Wesleyan University

	<i>List price</i>	<i>Mailing price</i>
Addison, Joseph: Selections. (Wendell and Greenough) .		
Burke's Speech on Conciliation with America. (Lamont) .	\$0.50	\$0.60
Burns: Selections. (Dow) . . . . .	.70	.80
Carlyle's Heroes, Hero-Worship, and the Heroic in His- tory. (MacMechan) . . . . .	.80	.90
Carlyle's Sartor Resartus. (MacMechan) . . . . .	.80	.90
Collins, Poems of. (Bronson) . . . . .	.60	.70
Cowper: Selections. (Murray) . . . . .	.60	.70
De Quincey: Selections. (Turk) . . . . .	.90	1.05
Elizabethan Lyrics. (Schelling) . . . . .	.75	.85
Gibbon's Memoirs. (Emerson) . . . . .	.75	.85
Gray: Selections. (Phelps) . . . . .	.60	.70
Herrick: Selections from the Hesperides and the Noble Numbers. (Hale) . . . . .	.60	.70
Jeffrey: Selections. (Gates) . . . . .	.60	.70
Jonson's Timber; or Discoveries. (Schelling) . . . . .	.80	.90
Keats: Selections. (Bates) . . . . .	.60	.70
Landor: Selections. (Clymer) . . . . .	.60	.70
Malory's Morte Darthur: Selections. (Mead) . . . . .	.80	.90
Old English Ballads. (Gummere) . . . . .	.80	.90
Pre-Shakspearean Drama, Specimens of. (Manly.) <i>In three volumes. Vols. I and II now ready.</i> each	1.25	1.40
Seventeenth Century Lyrics. (Schelling) . . . . .	.75	.85
Shakespeare, Sonnets of. (Beeching)		
Shelley: Selections. (Alexander) . . . . .	.80	.90
Sidney's Defense of Poesy. (Cook) . . . . .	.65	.75
Steele: Selections. (Carpenter) . . . . .	.60	.70
Tennyson: Selections. (Van Dyke) . . . . .	.90	1.00
Wordsworth: Selections. (Dowden) . . . . .	.90	1.00

GINN & COMPANY PUBLISHERS



1. the region
 2. the city
 3. the area

10
 11
 12
 13
 14
 15
 16
 17
 18
 19
 20
 21
 22
 23
 24
 25
 26
 27
 28
 29
 30
 31
 32
 33
 34
 35
 36
 37
 38
 39
 40
 41
 42
 43
 44
 45
 46
 47
 48
 49
 50
 51
 52
 53
 54
 55
 56
 57
 58
 59
 60
 61
 62
 63
 64
 65
 66
 67
 68
 69
 70
 71
 72
 73
 74
 75
 76
 77
 78
 79
 80
 81
 82
 83
 84
 85
 86
 87
 88
 89
 90
 91
 92
 93
 94
 95
 96
 97
 98
 99
 100
 101
 102
 103
 104
 105
 106
 107
 108
 109
 110
 111
 112
 113
 114
 115
 116
 117
 118
 119
 120
 121
 122
 123
 124
 125
 126
 127
 128
 129
 130
 131
 132
 133
 134
 135
 136
 137
 138
 139
 140
 141
 142
 143
 144
 145
 146
 147
 148
 149
 150
 151
 152
 153
 154
 155
 156
 157
 158
 159
 160
 161
 162
 163
 164
 165
 166
 167
 168
 169
 170
 171
 172
 173
 174
 175
 176
 177
 178
 179
 180
 181
 182
 183
 184
 185
 186
 187
 188
 189
 190
 191
 192
 193
 194
 195
 196
 197
 198
 199
 200
 201
 202
 203
 204
 205
 206
 207
 208
 209
 210
 211
 212
 213
 214
 215
 216
 217
 218
 219
 220
 221
 222
 223
 224
 225
 226
 227
 228
 229
 230
 231
 232
 233
 234
 235
 236
 237
 238
 239
 240
 241
 242
 243
 244
 245
 246
 247
 248
 249
 250
 251
 252
 253
 254
 255
 256
 257
 258
 259
 260
 261
 262
 263
 264
 265
 266
 267
 268
 269
 270
 271
 272
 273
 274
 275
 276
 277
 278
 279
 280
 281
 282
 283
 284
 285
 286
 287
 288
 289
 290
 291
 292
 293
 294
 295
 296
 297
 298
 299
 300
 301
 302
 303
 304
 305
 306
 307
 308
 309
 310
 311
 312
 313
 314
 315
 316
 317
 318
 319
 320
 321
 322
 323
 324
 325
 326
 327
 328
 329
 330
 331
 332
 333
 334
 335
 336
 337
 338
 339
 340
 341
 342
 343
 344
 345
 346
 347
 348
 349
 350
 351
 352
 353
 354
 355
 356
 357
 358
 359
 360
 361
 362
 363
 364
 365
 366
 367
 368
 369
 370
 371
 372
 373
 374
 375
 376
 377
 378
 379
 380
 381
 382
 383
 384
 385
 386
 387
 388
 389
 390
 391
 392
 393
 394
 395
 396
 397
 398
 399
 400
 401
 402
 403
 404
 405
 406
 407
 408
 409
 410
 411
 412
 413
 414
 415
 416
 417
 418
 419
 420
 421
 422
 423
 424
 425
 426
 427
 428
 429
 430
 431
 432
 433
 434
 435
 436
 437
 438
 439
 440
 441
 442
 443
 444
 445
 446
 447
 448
 449
 450
 451
 452
 453
 454
 455
 456
 457
 458
 459
 460
 461
 462
 463
 464
 465
 466
 467
 468
 469
 470
 471
 472
 473
 474
 475
 476
 477
 478
 479
 480
 481
 482
 483
 484
 485
 486
 487
 488
 489
 490
 491
 492
 493
 494
 495
 496
 497
 498
 499
 500
 501
 502
 503
 504
 505
 506
 507
 508
 509
 510
 511
 512
 513
 514
 515
 516
 517
 518
 519
 520
 521
 522
 523
 524
 525
 526
 527
 528
 529
 530
 531
 532

This book should be returned to
the Library on or before the last date
stamped below.

A fine of five cents a day is incurred
by retaining it beyond the specified
time.

Please return promptly.

